UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

IRVING FIREMEN'S RELIEF AND RETIREMENT FUND, on Behalf of Itself, and, in a Representative Capacity, on Behalf of All Those Similarly Situated, Plaintiff, vs. BANK OF AMERICA CORPORATION; BANK OF AMERICA, N.A.; MERRILL LYNCH, PIERCE, FENNER & SMITH, INC.; BANK OF AMERICA MERRILL LYNCH INTERNATIONAL LIMITED; CITIGROUP INC.; CITIBANK N.A.; CITIGROUP GLOBAL MARKETS INC.; CITIGROUP GLOBAL MARKETS LIMITED; CRÉDIT AGRICOLE S.A.; CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK; CRÉDIT AGRICOLE SECURITIES (USA) INC.; CREDIT SUISSE GROUP AG; CREDIT SUISSE AG; CREDIT SUISSE SECURITIES (USA) LLC; CREDIT SUISSE SECURITIES (EUROPE) LTD.; DEUTSCHE BANK AG; DEUTSCHE BANK SECURITIES, INC.; NOMURA HOLDINGS, INC.; NOMURA SECURITIES INTERNATIONAL, INC.; NOMURA INTERNATIONAL PLC; HIREN GUDKA; AMANDEEP SINGH MANKU; SHAILEN PAU; BHARDEEP SINGH HEER, Defendants.	Case No. _____ **CLASS ACTION COMPLAINT** **JURY TRIAL DEMANDED**

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Plaintiff Irving Firemen's Relief and Retirement Fund, on behalf of itself, and, in a representative capacity, on behalf of all those similarly situated under Rule 23 of the Federal Rules of Civil Procedure, for its Complaint against Defendants based upon personal knowledge, information, belief, and investigation of counsel, alleges:

I. NATURE OF ACTION

1. On December 9, 2015, *Bloomberg* reported that the U.S. Department of Justice ("DOJ") had launched an investigation into collusion in the supranational, sub-sovereign, and agency ("SSA") bond market. The DOJ's investigation reportedly involves both the antitrust division's New York office and the criminal division's Washington office. Similar to other government investigations of traders at multinational financial institutions, which have resulted in guilty pleas and billions of dollars in fines, the DOJ's investigation appears to center on whether Defendants' traders used electronic chat rooms to share competitively sensitive information and fix prices. The U.K. Financial Conduct Authority and the European Commission have launched parallel investigations into whether Defendants' conduct constitutes unlawful collusion. At the same time, Defendants have suspended certain SSA bond traders, and regulatory authorities have revoked those traders' licenses.

2. This class action alleges Defendants conspired to fix the prices of U.S. dollar-denominated SSA bonds ("USD-denominated") in the SSA bond secondary market. It is brought to recover for injuries to Plaintiff and the members of the Class caused by Defendants' violations of Sections 1 and 3 of the Sherman Antitrust Act, 15 U.S.C. §§1, 3, and under common law unjust enrichment.

3. Supranationals, sub-sovereigns, and certain quasi-governmental agencies issue SSA bonds to raise capital for a variety of public purposes worldwide. By way of example, the World Bank and the European Investment Bank are supranationals, the states (Länder) that

comprise Germany are sub-sovereigns, and the Kreditanstalt fur Wiederaufbau and Caisse d'Amortisement de la Dette Sociale are agencies.

4. In the world of bonds, SSA bonds sit between sovereign bonds, such as U.S. Treasuries, and private bonds, such as corporate bonds. SSA bonds have extremely high credit ratings and are "investment grade" with a low risk of default. While SSAs issue bonds in various currencies, such as the euro, SSAs often select the U.S. dollar ("USD") for their bonds to attract U.S. investors. This case concerns USD-denominated SSA bonds.

5. The SSA bond market is one of the largest in the world − estimated to be over $9 trillion. The SSA bond market has two components, the primary market and the secondary market. SSAs issue SSA bonds in the primary market. Defendants often serve as underwriters in the primary market, earning lucrative fees. Once issued, SSA bonds are traded over-the-counter ("OTC") in the secondary market. Defendants buy and sell billions of dollars' worth of SSA bonds each day in the secondary market. This case concerns Defendants' conduct in the secondary market.

6. Defendants, Plaintiff, and the Class all participate in the SSA secondary market. Defendants are market makers. Plaintiff and members of the Class (defined below) are Defendants' customers who purchased and/or sold USD-denominated SSA bonds directly from or to Defendants.

7. In an SSA bond transaction in the secondary market, a Defendant quotes its customer a "bid" (the price it will buy an SSA bond) and an "ask" (the price it will sell an SSA bond). The difference between the bid and the ask is called the bid/ask spread, or simply the spread. Defendants want to buy low and sell high. Defendants want wider spreads. Customers, however, want narrower spreads. Narrower spreads mean customers pay lower prices when

buying SSA bonds and receive higher prices when selling SSA bonds. Due to their perceived safety, SSA bond spreads are (or should be, absent Defendants' conduct) typically narrow.

8. Defendants are horizontal competitors in the SSA bond secondary market. Defendants compete with each other on the spreads they offer customers such as Plaintiff and the Class. SSA bonds are fungible. As a result, if a Defendant widened its spreads, it could expect to lose volume to its competitors who did not also widen their spreads.

9. Defendants, however, wanted increased trading volume in the SSA bond secondary market. Apart from a general business desire to trade more, Defendants knew and understood that SSA bond issuers tend to choose the underwriters for SSA bond issuances in the primary market based on the market makers' trading volume. According to industry insiders, SSA bond issuers circulate monthly charts referred to as "Mickey Mouse" charts. These charts rank the banks by trading volume in the SSA bond secondary market. SSA bond issuers use these charts to award underwriting business in the primary market to those with the highest volumes in the secondary market.

10. When dealing with a fungible product, such as an SSA bond, higher volume typically comes at the expense of price, *i.e.*, narrow spreads. Faced with these market economics, Defendants turned to collusion to obtain wider spreads in the secondary SSA bond market.

11. Beginning at a time unknown, but at least as early as January 1, 2010 and continuing through April 27, 2014 (the "Class Period"), Defendants conspired with each other to widen spreads, *i.e.*, fix prices, in the USD-denominated SSA bond secondary market. Using electronic chat rooms, Defendants shared with each other their own competitively sensitive information, such as customer trading history or order flow and daily inquiries into buying or

selling USD-denominated SSA bonds. Absent collusion, no Defendant would share this competitively sensitive information with its competitors. By sharing such information, however, Defendants were able to collude when quoting prices to Plaintiff and the Class.

12. The means of Defendants' conspiracy – communication via electronic chat rooms – is the same means used in recent collusion cases in the financial markets, such as the foreign currency exchange market. Recognizing the incriminating possibilities of chat rooms, the Defendants set up different chat rooms every single day in order to actively conceal their conspiracy**.**

13. Economic analyses conducted by experts retained by Plaintiff's counsel confirm that USD-denominated SSA bond prices were anticompetitive. As alleged below, the experts performed a number of analyses of SSA bond and other market data before, during, and after the Class Period. These analyses demonstrate that the pricing behavior of the USD-denominated SSA market during the Class Period was anticompetitive.

14. By secretly colluding to fix the prices of USD-issued SSA bonds, Defendants injured Plaintiff and the Class. As a direct and proximate result of Defendants' collusion, Plaintiff and the Class paid artificially inflated, anticompetitive prices when they purchased or sold USD-denominated SSA bonds from Defendants in the secondary market during the Class Period. Plaintiff thus seeks relief under the federal antitrust laws and the common law of unjust enrichment.

II. JURISDICTION, VENUE, AND COMMERCE

15. This Court has subject matter jurisdiction under Sections 4 and 16 of the Clayton Act, 15 U.S.C., §§15 and 26(a), and 28 U.S.C. §§1331 and 1337. This Court has subject matter jurisdiction of the unjust enrichment claim under 28 U.S.C. §§1332(d)(2) and 1367.

16. Defendants' conduct was within the flow of, was intended to, and did, in fact, have a substantial effect on the interstate commerce of the United States, including in this District. During the Class Period, Defendants used the instrumentalities of interstate commerce, including interstate wires and the U.S. mail, to effectuate their illegal scheme.

17. Defendants' conspiracy and conduct alleged herein has been in U.S. import commerce, or has had a direct, substantial, and reasonably foreseeable effect on U.S. domestic commerce, and such effect gives rise to the claims of Plaintiff and the Class, within the meaning of the Foreign Trade Antitrust Improvements Act of 1982, 15 U.S.C. §6a.

18. The Court has personal jurisdiction over each Defendant by virtue of their business activities within New York and the United States and because Defendants' collusive and manipulative acts took place, in substantial part, in New York specifically and in the United States generally. These acts were conducted by persons and entities subject to the laws of the United States, including the state of New York, as well as other states and territories. Each Defendant or its agents have continuously and systematically entered into SSA bond transactions in this District and/or throughout the United States. Defendants directed their conspiracy at, and had the intended effect of causing injury to, persons residing in, located in, or doing business in this District and throughout the United States.

19. Venue is proper in this District pursuant to Sections 4, 12, and 16 of the Clayton Act, 15 U.S.C. §§15(a), 22, and 26, as well as 28 U.S.C. §1391(b), (c), and (d). One or more of the Defendants resides, transacts business, is found, or has agents in this District, a substantial part of the events giving rise to Plaintiff's claims arose in this District, and a substantial portion of the affected interstate trade and commerce described herein has been carried out in this District.

III. PARTIES

A. Plaintiff

20. Plaintiff Irving Firemen's Relief and Retirement Fund is an Irving, Texas municipal plan with its principal place of business at 845 West Irving Boulevard, Irving, Texas 75060. Plaintiff is a governmental pension system that provides retirement allowances and other benefits for municipal fire fighters in the city of Irving, Texas. Plaintiff purchased and/or sold USD-denominated SSA bonds directly from and/or to one or more Defendants during the Class Period and was directly injured in its business and property by Defendants' violations of law.

B. Defendants

21. "Defendant" or "Defendants" as used herein, includes, in addition to those named below, all of the named Defendants' predecessors, including those merged with or acquired by the named Defendants, and each named Defendants' wholly owned or controlled subsidiaries or affiliates that played a material role in the unlawful acts alleged in this Complaint.

1. Bank Defendants

a. Bank of America

22. Defendant Bank of America Corporation ("BAC") is a Delaware corporation with its principal place of business at 100 North Tryon Street, Charlotte, North Carolina 28255. Through control of its wholly owned and/or controlled subsidiaries, including those Defendants identified below, that comprise its Global Investment Banking and Global Markets business segments, BAC participates in the SSA bond primary and secondary markets, including in the United States.

23. Defendant Bank of America, N.A. ("BANA") is a federally chartered national banking association with its principal place of business also located at 100 North Tryon Street, Charlotte, North Carolina 28255. It is a wholly owned subsidiary of Defendant BAC.

24. Defendant Merrill Lynch, Pierce, Fenner & Smith, Inc. ("Merrill Lynch) is a Delaware corporation with its principal place of business at One Bryant Park, New York, New York 10036. It is a wholly owned subsidiary of Defendant BAC.

25. Defendant Bank of America Merrill Lynch International Limited ("BAMLI") is an English registered private limited company with its principal place of business located at 2 King Edward Street, London EC1A HQ, England. BAMLI is BAC's primary Europe, Middle East, and Africa bank subsidiary. BAMLI is a direct subsidiary of Defendant BANA and a wholly owned indirect subsidiary of Defendant BAC. Prior to December 2013, BAMLI was known as Banc of America Securities Limited. In the United Kingdom, BAMLI is authorized and regulated by the Prudential Regulation Authority and is also regulated by the Financial Conduct Authority.

26. Defendants BAC, BANA, Merrill Lynch, and BAMLI are collectively referred to as "Bank of America" in this Complaint. During the Class Period, Bank of America purchased and sold USD-denominated SSA bonds directly from and to the Class in the United States, including in this District, at anticompetitive prices. During the Class Period, Bank of America employed Defendants Amandeep Singh Manku and Hiren Gudka as SSA bond traders.

b. Citi

27. Defendant Citigroup Inc. ("Citigroup") is a Delaware corporation with its principal place of business at 388 Greenwich Street, New York, New York 10013. Through control of its wholly owned and/or controlled subsidiaries, including those Defendants identified below, that comprise its Institutional Clients Group business segment, including the ICG's Market and Securities Service division, Citigroup participates in the SSA bond primary and secondary markets, including in the United States.

28. Defendant Citibank N.A. ("Citibank") is a federally chartered, national banking association with its principal place of business at 701 East 60th Street North, Sioux Falls, South Dakota 57104.

29. Defendant Citigroup Global Markets Inc. ("CGMI") is a New York corporation with its principal place of business at 388 Greenwich Street, New York, New York 10013. CGMI is an indirect, wholly owned subsidiary of Defendant Citigroup. CGMI is Defendant Citigroup's primary broker-dealer in the United States. CGMI provides underwriting and trading services across such asset classes as equities, corporate, government, and agency bonds.

30. Defendant Citigroup Global Markets Limited ("CGML") is a U.K.-registered private limited company with its principal place of business at Citigroup Centre, 33 Canada Square, London E14 5LB, United Kingdom. CGML is an indirect, wholly owned subsidiary of Defendant Citigroup. Operating globally, including in the Americas, CGML is Defendant Citigroup's international broker-dealer. Defendant CGML has a major presence in the international financial markets as a dealer market maker in equity and fixed income securities. GGML's major counterparties include investment managers, insurers, and hedge funds. In the United Kingdom, CGML is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and Prudential Regulation Authority.

31. Defendants Citigroup, Citibank, CGMI, and CGML are collectively referred to as "Citi" in this Complaint. During the Class Period, Citi purchased and sold USD-denominated SSA bonds directly from and to the Class in the United States, including in this District, at anticompetitive prices.

32. Citi is a major player in the USD-denominated SSA market and employed Gary McDonald as one of its primary USD-denominated SSA traders during the Class Period.

According to industry insiders, McDonald had a close relationship with the named Trader Defendants (defined below) during the Class Period. For example, Defendant Hiren Gudka was McDonald's trading assistant and, some say, mentor while both were with BofA. McDonald's FCA Authorization ended on March 6, 2016, the very same day as both the Head of SSA Trading at Defendant CGML and another USD-denominated SSA trader, Defendant Bhardeep Signh Heer of Nomura.

33. Despite neither McDonald nor Citibank being expressly listed as among those under investigation in the December 2015 or January and February 2016 news reports on the SSA investigation, Citibank did disclose in public filings that its "sales and trading activities in connection with sovereign securities" were under investigation by domestic and international government agencies shortly after of those news reports were published. Defendant Citibank, in its Form 10K filed on February 26, 2016, disclosed:

> Government and regulatory agencies in the U.S. and in other jurisdictions are conducting investigations or making inquiries regarding Citigroup's sales and trading activities in connection with sovereign securities. Citigroup is fully cooperating with these investigations and inquiries.[1]

34. The disclosure was also made by CGMI in a contemporaneous regulatory filing.[2]

35. On information and belief, Citibank's disclosure concerns the investigation by U.S. and foreign regulators revealed by *Bloomberg* and featured in other reports. Citibank sometimes uses the terms "sovereign" and "SSA" loosely or self-referentially, if not

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[1] Citigroup Inc. 2015 Form 10K at 292 (for the year ending Dec. 31, 2015) (Feb. 26, 2016).

[2] *See* Citigroup Global Markets Inc., Form X-17A-5 at 60 (for the period ending Dec. 31, 2015) (Feb. 29, 2016).

interchangeably, as do other Defendants and others that participate in and report on the industry,[3] and has referred to SSAs as the "sovereign, agency and supranational sector."[4] In another example, Citibank recently had a job posting for a position in New York to "[m]anage key aspects of . . . the syndicate distribution of Dollar Denominated New Issue securities for the Supra, Sovereign and Agency ("SSA") Community. . . ."[5] Citibank is joined in this usage by a number of the bank defendants.[6] For its part, one of the most significant SSA Supranational

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[3] *See*, *e.g.*, Press Release, World Bank Prices Successful USD 5 Billion 3-Year Global Benchmark Bond (July 6, 2016) (quoting Citibank's Philip Brown), at http://treasury.worldbank.org/cmd/htm/WorldBankPricesSuccessfulUSD5Billion3_YearGlobalBenchmarkBond.html (describing issuance as "the tightest USD 3-year benchmark from a sovereign, supranational or agency (SSA) issuer of 2016 . . . . tightest pricing on a 3-year SSA deal all year . . . .").

[4] Debt markets: SSA dollar issuance surges, Euromoney (Oct. 1, 2009) (quoting Phillip Brown of Citi on the value of "SSA" issuances).

[5] Citigroup Inc. Website, Career Opportunity, Director, Syndicate Trader, https://jobs.citi.com/job/new-york/director-syndicate-trader/287/2716005?404%3bhttp%3a%2f%2fjobs.citi.com%3a80%2fus%2funited-states%2ftrading%2fjobid10402551-director-syndicate-trader (as visited August 16, 2016).

[6] *See*, *e.g.*, Credit Agricole Website, http://www.ca-cib.com/our-offers/global-debt-markets-and-debt-capital-markets.htm (using "SSA" to refer to "sovereigns, supra-nationals and agencies" and one of five discrete segments of its Debt Capital Markets team) (last visited Dec. 13, 2016); Credit Suisse, Fixed Income Research, European SSAs Explorer, https://research-and-analytics.csfb.com/docView?docid=Fz7P8b (abbreviating SSA as "sovereign, supranational and agency (SSA) bonds") (last visited Dec. 13, 2016); Deutsche Bank, Global Passion, https://www.db.com/company/en/media/ifr_awards_pdf.pdf (describing DB executive as "Head of Sovereign, Supranational & Agency" and "Head of SSA DCM" in the same discussion) (last visited Aug. 16, 2016); Nomura Holdings Inc. Investor Day Presentation by Kenaro Okuda, Global Head of Investment Banking, at 8, May 28, 2015, www.nomuraholdings.com/investor/presentation/data/2015_0528_04_prem.pdf ("SSA: sovereign, supranational and agency") (last visited Dec. 13, 2016).

issuers, The World Bank, sometimes refers, in name, to SSAs as "sovereign, supranational or agency" or "Sov/Supra/Agency."[7]

c. Crédit Agricole

36. Defendant Crédit Agricole S.A. ("CASA") is a French *société anonyme* with its principal place of business at 12 place des États-Unis, 92127, Montrouge Cedex, France. Through control of its wholly owned and/or controlled subsidiaries, including those Defendants identified below, and branches that comprise its Corporate and Investment Banking business line, CASA participates in the SSA bond primary and secondary markets, including in the United States.

37. Defendant Crédit Agricole Corporate and Investment Bank ("Crédit Agricole CIB" or "CACIB") is a French *société anonyme* with its principal place of business at 9, quai du Président Paul Doumer, La Défene Cedex, Paris, 92920, France. Crédit Agricole CIB is a subsidiary of Defendant CASA, which directly owned over 97% of Crédit Agricole CIB. Crédit Agricole CIB is the new name, as of February 6, 2010, of Calyon, the international wholesale banking and capital markets arm of CASA. Crédit Agricole CIB is not a new legal entity, but a continuation of Calyon under a new name. Crédit Agricole CIB is one of Europe's leading corporate and investment bank institutions. Operating in Defendant CASA's Corporate and Investment Banking business line, Defendant CACIB offers its clients a full range of products and services in capital markets, brokerage, investment banking, structured finance, and commercial banking. Crédit Agricole CIB's Global Markets Division ("GMD") includes

[7] *See*, *e.g.*, Presentation, The World Bank, George Richardson, "Investing in Supranationals," Dec. 12, 2011, at http://www.treasurer.ca.gov/cdiac/webinars/20111207/richardson.pdf (referring to "The Sov/Supra/Agency (SSA) sector" and listing individual SSAs as examples).

CACIB's sales and trading of certain debt instruments and derivatives (in interest rates, foreign exchange, and precious metals), securitization, and debt securities underwriting.

38. According to a December 24, 2015 U.S. Resolution plan filed by Defendant CASA with the FDIC, Defendant Crédit Agricole CIB has a significant presence in the United States. Crédit Agricole CIB operates in the United States, including in this District, through its New York Branch ("Crédit Agricole CIBNY") and operates in the United Kingdom through its London Branch. Crédit Agricole CIBNY is licensed by the Superintendent of Banks of the State of New York under the New York Banking Law. Crédit Agricole CIBNY's principal office is located at 1301 Avenue of the Americas, New York, New York 10019. The main business lines of the CACIB NY Branch include Structured Finance International, Global Markets Division, and Debt Optimization and Distribution.

39. Defendant Crédit Agricole Securities (USA) Inc. ("CAS") is a New York corporation with its principal place of business at the Crédit Agricole Building, 1301 Avenue of the Americas, New York, New York 10019. CAS is a wholly owned indirect subsidiary of Defendant Crédit Agricole CIB. CAS is a registered broker-dealer under the Securities Exchange Act of 1934, a member of the Financial Industry Regulatory Authority, and registered with the Commodity Futures Trading Commission as an introducing broker. In its capacity as a securities broker-dealer, CAS engages in investment banking, custody, execution and clearance, debt and equity underwriting, debt sales and trading, and corporate finance advisory services with domestic and foreign institutions.

40. Defendants CASA, Crédit Agricole CIB, and CAS are collectively referred to as "Crédit Agricole" in this Complaint. During the Class Period, Crédit Agricole purchased and sold USD-denominated SSA bonds directly from and to the Class in the United States, including

in this District, at anticompetitive prices. During the Class Period, Crédit Agricole employed Defendants Amandeep Singh Manku and Shailen Pau as SSA bond traders.

d. Credit Suisse

41. Defendant Credit Suisse Group AG ("CSG") is a Swiss *Aktiengesellschaft* with its principal place of business located at Paradeplatz 8, CH 8001, Zurich, Switzerland. During the Class Period, through control of its wholly owned and/or controlled subsidiaries, including those Defendants identified below, and branches that comprise its Investment Banking Division (or business segment) CSG participated in the SSA bond primary and secondary markets, including in the United States. In October 2015, Defendant CSG restructured itself, such that these activities now fall within its Global Markets business line.

42. Defendant Credit Suisse AG ("CSAG") is a Swiss *Aktiengesellschaft* with its principal place of business at Paradeplatz 8, CH 8001, Zurich, Switzerland. CSAG is a wholly owned Swiss bank subsidiary of Defendant CSG. Credit Suisse AG is registered with and licensed by the New York Department of Financial Services and operates a branch registered in New York, New York. Credit Suisse, New York Branch, was established in 1940 in New York, New York, and is, among other things, a vehicle for various funding activities of Credit Suisse. The New York Branch exists as part of Credit Suisse and is not a separate legal entity, although it has independent status for certain tax and regulatory purposes. The New York Branch is located at Eleven Madison Avenue, New York, New York 10010. In the United Kingdom, CSAG is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and Prudential Regulation Authority. Credit Suisse, London Branch, was established in 1993 in England and Wales, and is, among other things, a vehicle for various funding activities of Credit Suisse. The London Branch exists as part of Credit Suisse and is not

a separate legal entity, although it has independent status for certain tax and regulatory purposes. The London Branch is located at One Cabot Square, London, E14 4QJ, United Kingdom.

43. Defendant Credit Suisse Securities (USA) LLC ("CSSUS") is a Delaware limited liability company with its principal place of business at Eleven Madison Avenue, 24th Floor, New York, New York 10010. CSSUS is a wholly owned subsidiary of Credit Suisse (USA), Inc. and an indirect wholly owned subsidiary of Defendant CSG. CSSUS is Defendant CSG's principal U.S. registered broker-dealer subsidiary. CSSUS operates as an investment bank in the United States and is a U.S. registered broker-dealer, providing a variety of capital raising, market making, advisory, and brokerage services for governments, financial institutions, high-net-worth individuals, and corporate clients and affiliates. It is also a primary dealer in U.S. government securities and an underwriter, placement agent, and dealer for money market instruments, commercial paper, mortgage, and other asset backed securities, as well as a range of debt, equity, and other convertible securities of corporations and other issuers.

44. Defendant Credit Suisse Securities (Europe) Ltd. ("CSSEu") is a U.K.-registered private limited company with its principal place of business located at One Cabot Square, London, E14 4QJ, United Kingdom. CSSEu is an indirect wholly owned subsidiary of Defendant CSG. During the Class Period, Defendant CSSEu had three principal business divisions that were part of Defendant CSG's Investment Banking Division. Specific to this case, Defendant CSSEu's Fixed Income Division engaged in underwriting, securitising, trading, and distributing a broad range of financial instruments in developed and emerging markets, including US Treasury and government agency securities and US and foreign investment-grade and high yield corporate bonds. In the United Kingdom, CSSEu is authorized by the Prudential

Regulation Authority and regulated by the Financial Conduct Authority and Prudential Regulation Authority.

45. Defendants CSG, CSAG, CSSUS, and CSSEu are collectively referred to as "Credit Suisse" in this Complaint. During the Class Period, Credit Suisse purchased and sold USD-denominated SSA bonds directly from and to the Class in the United States, including in this District, at anticompetitive prices. During the Class Period, Credit Suisse employed Defendant Shailen Pau as an SSA bond trader.

e. Deutsche Bank

46. Defendant Deutsche Bank AG ("DBAG") is a German *Aktiengesellschaft* with its principal place of business at Taunusanlage 12, Frankfurt AM Main 2M D-60262, Germany. Deutsche Bank AG is registered with and licensed by the New York Department of Financial Services. DBAG operates Deutsche Bank AG, New York Branch and is located at 60 Wall Street, New York, New York 10005. In the United Kingdom, DBAG is authorized and regulated by the Prudential Regulation Authority and is also regulated by the Financial Conduct Authority. DBAG operates Deutsche Bank AG, London Branch, which offers investment banking and underwriting services and is located at Winchester House, 1 Great Winchester Street, London, EC2N 2DB, United Kingdom. During the Class Period, through control of its wholly owned and/controlled subsidiaries and branches that comprise its Corporate Banking and Securities Corporate Division ("CB&S") markets, Defendant DBAG participated in the SSA bond primary and secondary markets, including in the United States. In October 2015, DBAG announced a planned restructuring that split CB&S into two separate units, including a Global Markets Division that will continue DBAG's sales and trading businesses.

47. Defendant Deutsche Bank Securities, Inc. ("DBSI") is a Delaware corporation with its principal place of business located at 60 Wall Street, New York, New York 10005.

DBSI is an owned indirect subsidiary of Defendant DBAG. DBSI is registered as a securities broker-dealer with the SEC and serves as Defendant DBAG's U.S. broker-dealer and operates as part of Defendant DBAG's CB&S. DBSI's business includes market making and brokerage services for its government, financial institution, and corporate clients, including fixed income and equity sales and trading.

48. Defendants DBAG and DBSI are referenced collectively in this Complaint as "Deutsche Bank." During the Class Period, Deutsche Bank purchased and sold USD-denominated SSA bonds directly from and to the Class in the United States, including in this District, at anticompetitive prices. During the Class Period, Deutsche Bank employed Defendant Hiren Gudka as an SSA bond trader.

f. Nomura

49. Defendant Nomura Holdings, Inc. ("Nomura Holdings") is a Japanese corporation with its principal place of business at 1-9-1 Nihonbashi, Chuo-ku, Tokyo, Japan 103-8645. During the Class Period, through control of its owned and/or controlled subsidiaries, including those Defendants identified below, that comprise its Wholesale Division, including, at times, its Global Markets and Investment Banking businesses, Defendant Nomura Holdings participated in the SSA bond primary and secondary markets, including in the United States. Formed in 2012, Global Markets incorporated Defendant Nomura Holding's Fixed Income business, which conducts sales, trading, and market making of fixed income-related products on a global basis, including, among other products, government securities, interest-rate derivatives, investment-grade and high-yield corporate bonds, credit derivatives, G-10 and emerging markets foreign exchange, asset-backed securities, and mortgage-related products, in over-the-counter ("OTC") and listed markets. Defendant Nomura Holding's Investment Banking underwrites offerings of a wide range of securities and other financial instruments, which include various types of stocks,

convertible and exchangeable securities, investment grade debt, sovereign and emerging market debt, high yield debt, structured securities, and other securities in Asia, Europe, U.S., and other major financial markets.

50. Defendant Nomura Securities International, Inc. ("NSI") is a New York corporation with its principal place of business at Worldwide Plaza, 309 West 49th Street, New York, New York 10019. NSI is wholly owned by Defendant Nomura Holdings. NSI underwrites and trades government bonds and derivatives. It also provides asset management and investment banking services. The company operates businesses in four primary areas such as fixed income, equities, investment banking, and asset management.

51. Defendant Nomura International plc ("NI") is a U.K.-registered public limited company with its principal place of business at 1 Angel Lane, London, EC4R 3AB, United Kingdom. NI is a subsidiary of Nomura Holdings. In the United Kingdom, NI is authorized and regulated by the Prudential Regulation Authority and is also regulated by the Financial Conduct Authority. Defendant NI together with its subsidiaries, operates as a securities broker/dealer in the United Kingdom and elsewhere, operating as part of Defendant Nomura Holding's Wholesale Division. NI trades in and sells fixed income and equity products, including related derivatives, and provides investment banking services, and corporate finance and private equity services.

52. Defendants Nomura Holdings, NS, NSI, and their subsidiaries and affiliates are referenced collectively in this Complaint as "Nomura." During the Class Period, Nomura purchased and sold USD-denominated SSA bonds directly from and to the Class in the United States, including in this District, at anticompetitive prices. During the Class Period, Nomura employed Defendant Bhardeep Singh Heer as an SSA bond trader.

2. Trader Defendants

a. Hiren Gudka

53. Defendant Hiren Gudka ("Gudka") is an individual residing in Middlesex, England, and upon information and belief, is not a citizen of the United States. During the Class Period and acting as an employee of Defendants Bank of America and Deutsche Bank, Gudka purchased USD-denominated SSA bonds directly from and sold USD-denominated SSA bonds directly to members of the Class in the United States, including this District, at anticompetitive prices. The DOJ is investigating Defendant Gudka's conduct as an SSA bond trader during the Class Period for unlawful collusion.

b. Amandeep Singh Manku

54. Defendant Amandeep Singh Manku ("Manku") is an individual residing in Essex, England, and upon information and belief, is not a citizen of the United States. During the Class Period and acting as an employee of Defendants Bank of America and Crédit Agricole, Defendant Manku purchased USD-denominated SSA bonds directly from and sold USD-denominated SSA bonds directly to members of the Class in the United States, including this District, at anticompetitive prices. The DOJ is investigating Defendant Manku's conduct as an SSA bond trader during the Class Period for unlawful collusion.

c. Shailen Pau

55. Defendant Shailen Pau ("Pau") is an individual residing in London, England, and upon information and belief, is not a citizen of the United States. During the Class Period and acting as an employee of Defendants Credit Suisse and Crédit Agricole, Pau purchased USD-denominated SSA bonds directly from and sold USD-denominated SSA bonds directly to members of the Class in the United States, including this District, at anticompetitive prices. The

DOJ is investigating Defendant Pau's conduct as an SSA bond trader during the Class Period for unlawful collusion.

d. Bhardeep Singh Heer

56. Defendant Bhardeep Singh Heer ("Heer") is an individual residing in Essex, England, and upon information and belief, is not a citizen of the United States. During the Class Period and acting as an employee of Defendant Nomura, Heer purchased USD-denominated SSA bonds directly from and sold USD-denominated SSA bonds directly to members of the Class in the United States, including in this District, at anticompetitive prices. The DOJ is investigating Defendant Heer's conduct as an SSA bond trader during the Class Period for unlawful collusion. Defendant Heer's FCA Authorization ended on March 6, 2016, the very same day as both the Head of SSA Trading at Defendant Citigroup Global Markets Limited and another of Citibank's USD-denominated SSA traders who was an associate of Heer, Gary McDonald.

C. Agents, Affiliates, and Co-conspirators

57. Each of the Defendants named herein acted as the agent or joint-venturer of or for the other Defendants with respect to the acts, violations, and common course of conduct alleged herein.

58. Whenever reference is made to any act, deed, or transaction of any legal entity, such as a corporation, the allegation means that the legal entity engaged in the act, deed or transaction by or through its directors, members, partners, managers, officers, employees, or agents while they were actually engaged in the management, direction, control, or transaction of business or affairs of the legal entity. Similarly, actions undertaken by an affiliate of a Defendant are alleged to have been done under the management, direction, or control of a Defendant and in furtherance of Defendants' business.

59. Various other persons (legal and natural) that are unknown and not named as Defendants have participated as co-conspirators with Defendants and have performed acts in furtherance of the conspiracy.

IV. CLASS ACTION ALLEGATIONS

60. Class Definition. Pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, Plaintiff brings this action on behalf of itself and on behalf of the following "Class":

> All persons who, between January 1, 2010 and April 27, 2014 (inclusive) purchased or sold a U.S. dollar-denominated SSA bond in the secondary SSA bond market directly to or from a Defendant, where such persons were either domiciled in the United States or its territories or, if domiciled outside the United States or its territories, purchased or sold (as set forth above) one or more USD-denominated SSA bond in the United States or its territories.

61. Exclusions from the Class. Excluded from the Class are Defendants and their co-conspirators. For the Bank Defendants and their co-conspirators, this includes their subsidiaries and affiliates, as well as the directors, members, partners, managers, officers, employees, and agents of both the Bank Defendants and their subsidiaries and affiliates. For the Trader Defendants, this includes any entity in which they have a controlling interest, their legal representatives, heirs, assigns or any other person acting on their behalf. Also excluded from the Class are any judicial officer presiding over this action and the members of his/her immediate family and judicial staff, and any juror assigned to this action.

62. Ascertainability. Using, among other things, Defendants' records, the Class members are readily ascertainable.

63. Numerosity. Due to the nature of the trade and commerce involved, Plaintiff believes that there are thousands of geographically dispersed Class members, the exact number and their identities being known to Defendants and their co-conspirators.

64. Typicality. Plaintiff's claims are typical of the claims of Class members. Defendants' wrongful common course of conduct in violation of the law directly and proximately caused the damages and injuries of Plaintiff and each member of the Class. There are no defenses that are unique to Plaintiff.

65. Adequacy. Plaintiff will protect the interests of the Class. Plaintiff's interests are aligned with, and not antagonistic to, the Class members. Plaintiff has retained counsel competent and experienced in the prosecution of class actions and antitrust litigation to represent itself and the other Class members.

66. Commonality. There are one or more questions of law or fact common to the Class, including, but not limited to:

a. whether Defendants and their co-conspirators engaged in an agreement, combination, or conspiracy to fix, raise, elevate, maintain, or stabilize USD-denominated SSA bond bid/ask spreads in interstate commerce in the United States;

b. the identity of the participants of the conspiracy or manipulative scheme;

c. the duration of the conspiracy scheme alleged herein and the acts performed by Defendants and their co-conspirators in furtherance thereof;

d. whether the alleged conspiracy violated Sections 1 and 3 of the Sherman Act, 15 U.S.C. §§1 and 3;

e. whether the conduct of Defendants and their co-conspirators, as alleged in this Complaint, caused injury to Plaintiff and Class members; and

f. the appropriate measures of damages for the Class.

67. Predominance. Questions of law or fact common to Class members predominate over questions affecting only individual Class members.

68. Superiority. A class action is superior to other available methods for the fair and efficient adjudication of this controversy. Plaintiff knows of no special difficulty to be encountered that would preclude its maintenance as a class action. On the other hand, the

prosecution of separate actions by individual Class members would impose a heavy burden on the courts and Defendants and would create a risk of inconsistent or varying adjudications of the questions of law and fact common to the Class. In contrast, a class action would achieve substantial economies of time, effort, and expense, and would assure uniformity of decisions as to persons similarly situated, without sacrificing procedural fairness or bringing about other undesirable results. Absent a class action, it would not be feasible for the vast majority of Class members to seek redress for the violations of law herein alleged.

69. The Class is defined herein based on currently available information and Plaintiff hereby reserves the right to amend the definition of members of the Class, including, without limitation, the Class Period.

V. SUBSTANTIVE FACT ALLEGATIONS

A. The SSA Bond Market

70. The SSA bond market is a large global market. According to *Bloomberg* estimates, the SSA bond market is valued from $9 trillion to $15 trillion. The SSA bond market experienced significant growth in the past decade, having tripled from 2005 to 2012. In 2015, new issues in SSA bonds reached $843.35 billion.[8]

71. Governmental or quasi-governmental, supranationals, sub-sovereigns, and agencies issue SSA bonds to raise capital for a variety of public (*i.e.*, social, infrastructure, policy, economic development) purposes worldwide.

[8] *See* Abhinav Ramnarayan and Helene Durand., *DoJ investigates bond traders over market-rigging*, INTERNATIONAL FINANCING REVIEW (Jan. 6, 2016), http://www.ifre.com/exclusivedoj-investigates-bond-traders-over-market-rigging/21230385.fullarticle.

72. Supranational issuers are institutions whose mandates extend across national borders and are governed by representatives from a number of countries. Examples of these include the World Bank, the African Development Bank, the European Investment Bank ("EIB"), and the International Finance Corporation ("IFC").

73. Sub-sovereign issuers include regional entities that sit at the state or province-level. Examples include the German states (such as Berlin or Saxony) or Canadian provinces (Ontario, Alberta, etc.).

74. Agency bonds that are included in the SSA bond market involve a variety of quasi-public entities that meet the social or economic public policy mandates. Examples of these agency bonds would include Kreditanstalt fur Wiederaufbau ("KfW") in Germany and Caisse d'Amortisement de la Dette Sociale ("CADES") in France.

75. The SSA bond market is viewed as relatively "safe" and protected due to its ties to public entities and sovereign issuers. Some SSA bonds have full government guarantees of repayment, such as KfW and JBIC (Japan), while others have an implied guarantee or government ownership (*e.g.*, CADES). SSA bonds thus have high credit ratings and are considered "investment grade" (BBB- or higher) with an extremely low risk of default. For example, according to the Barclays U.S. Aggregate Index, KfW bonds are rated AAA by S&P and Aaa by Moody's. The same holds true for EIB bonds.

76. The SSA bond market consists of both a primary and secondary market. SSAs issue new bonds in the primary market. Investment banks, including Defendants' operations, serve as underwriters of the new SSA bonds. Underwriting fees in the primary market are substantial. As is the case with an IPO in the equities markets, issuers commonly select multiple underwriters for a new issue.

77. SSAs issue bonds in various currencies. While a foreign SSA, such as KfW, may issue bonds in their local currency, such as the euro, they often issue bonds in various currencies.

78. SSAs often issue bonds denominated in USD. The USD can sometimes offer lower borrowing costs compared to the Euro or other currencies. Additionally, issuing USD-denominated SSA bonds can make them more attractive to U.S. investors. Some SSA bond market insiders consider U.S. investors to be the "Holy Grail" of the SSA bond market. While investors are located globally, it is estimated that in 2013, over 75% of USD-denominated SSA activity came from U.S.-based clients. USD-denominated SSA issuances account for roughly 35% of the global SSA bond market.

79. Once issued in the primary market, SSA bonds trade in the secondary market. The SSA bond secondary market is an over-the-counter ("OTC") market. In an OTC market (as opposed to on an exchange), parties deal directly with each other. Dealers, such as Defendants, act as market makers in the secondary market, continuously offering to buy or sell SSA bonds to investors, pension funds, hedge funds, mutual funds, insurance companies, corporations, foundations and some high-worth individuals, among others. Thus, Plaintiff and the Class are the banks' customers in the SSA bond secondary market. The secondary market is highly active with billions of dollars' worth of SSA bonds changing hands during the lifetime of the bonds.

80. In the secondary market, if an investor wants to buy or sell an SSA bond, it obtains quotes on bond prices from one or more dealers/market makers. Throughout the Class Period, dealers quoted either telephonically or, increasingly, through electronic trading platforms

such as "TradeWeb" or "MarketAxess." An investor would often solicit price quotes from multiple dealers, partially to satisfy the best execution mandates developing in Europe.[9]

81. The prices of SSA bonds are stated in terms of the bond's par value, coupon, and maturity date. Par value is face value, payable on maturity date. The coupon is the interest rate that the bond issuer must pay an investor. SSA bonds are sold at a percentage of their par value and may also be measured by their "yield," a figure that shows the return that an investor receives by holding the bond to maturity.

82. The dealer quotes bond prices, providing both "bid" and "ask" prices. Bid price is the maximum price at which a dealer will purchase the SSA bonds from a customer. The ask price is the minimum price at which a dealer will sell the SSA bonds to a customer. Bid and ask prices are usually set in terms of basis points. One basis point equals 1/100th of one percent or 0.0001 ("bp").

83. The difference between the bid and ask is known as the bid/ask spread or simply the spread. The spread represents an important way in which a dealer makes money. The dealer buys at the lower bid and sells at the higher ask. The difference represents margin to the dealers. Thus, the wider the spread, the more margin a dealer makes. Dealers want wider spreads.

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[9] "Best execution" refers to the duty of a broker or someone executing orders on behalf of customers to ensure the best execution (*i.e.*, price) possible for their customers' orders. The Markets in Financial Instruments Directive ("MiFID") has attempted to define "best execution" but, in practice, one agreed-upon element of best execution has been to solicit bids from multiple banks, and always at least three. Therefore, a customer would either telephonically solicit multiple bids from banks, or send ticker inquiries to multiple banks, or use one of the trading platforms (such as MarketAxess). In the latter scenario, a customer is able to select the specific banks from which they seek to obtain a bond quote by checking a box on the platform screen for that specific bank. Brokers or money managers using these online trading platforms will often check boxes for all of the Defendants for any given quote request.

84. In contrast, customers want narrower spreads. Smaller spreads represent better prices for customers because the customers are able to sell for more and buy for less.

85. Dealers compete with each other based on their bid and ask prices, and thus, their spreads. Because the SSA bonds that form a particular issuance are fungible, dealers risk losing business to another dealer if they widen their spread beyond a competitively set market price.

86. Defendant banks had separate desks under the SSA umbrella with different traders specializing in the different currencies. For example, a Defendant would have a distinct desk for trading in USD-denominated SSA bonds versus the desk for trading euro-denominated SSA bonds. Traders were unlikely to work between the separate currencies. While the USD-denominated SSA bond traders may have sat in London or New York, frequently they were overseen by managers in New York.[10]

B. Changes Affecting the SSA Bond Market

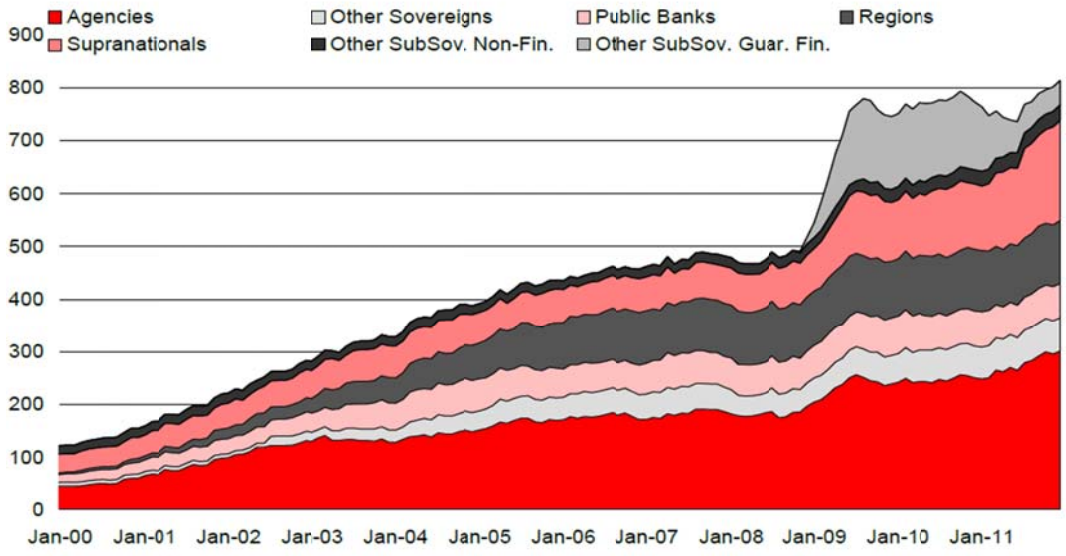
1. Market Volume Increases

87. During the Class Period, the SSAs issued substantially more bonds. The increase was due in large part to the financial crisis in the United States and the desire to thereafter invest in "safe" bonds. PIMCO explained it as a "crowding-in effect" where investors were searching

[10] Fannie Mae and Freddie Mac bonds are not within the scope of the conspiracy alleged herein. While they are sometimes grouped with SSA bonds, often they are not. *See*, *e.g.*, http://www.incapital.com/Products_and_Offerings/SSA/Overview/About_Agencies.aspx They were traded by a separate trading desk during the Class Period. Moreover, as reflected below, Fannie Mae and Freddie Mac bonds did not exhibit the anomalous pricing characteristics exhibited by SSAs during the Class Period.

for investments offering "safe spreads."[11] In 2009, the SSA bond volume increased by over 30%:[12]

Overall Outstanding Volumes* (EUR bn)



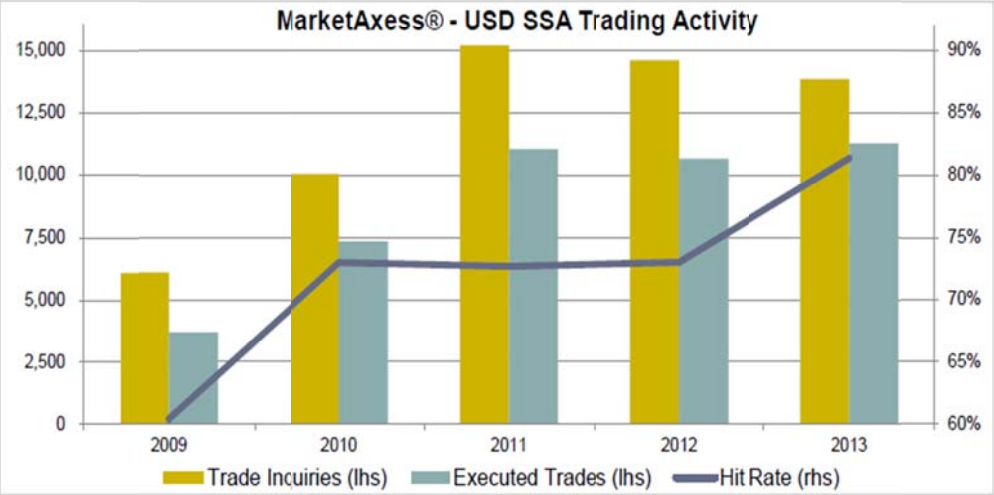
*Figures are based on iBoxx data, i.e. inclusion criteria for iBoxx: minimum outstanding of EUR 1bn; minimum time to maturity of one year; EUR-denomination;
Source: iBoxx, UniCredit Research

88. A 2013 report from MarketAxess shows this increased growth, investor demand, and liquidity in the secondary market for USD-denominated SSA bonds:[13]

[11] Kendall Miller, *The SSA Market: a Legitimate "Safe Spread Alternative"?*, PIMCO (Nov. 2012), https://www.pimco.com/insights/investment-strategies/featured-solutions/the-ssa-market-a-legitimate-safe-spread-alternative.

[12] Valentina Stadler and Amey Dyckmans, The Sub-Sovereigns & Agencies Chartbook, UNICREDIT RESEARCH GROUP (2013), at 12, https://www.research.unicreditgroup.eu/DocsKey/credit_docs_2013_134286.ashx?EXT=pdf&KEY=n03ZZLYZf5lf7or0wmWQ7aaj78BHiHo8rkB3VOXZqZo=.

Year	Active Clients	Trade Inquiries	Executed Trades	Hit Rate
2009	212	6,091	3,679	**60.4%**
2010	230	10,050	7,334	**73.0%**
2011	303	15,201	11,045	**72.7%**
2012	320	14,603	10,661	**73.0%**
2013	303	13,847	11,266	**81.4%**
2009 – 2013 Growth Rate	**43%**	**127%**	**206%**	



89. Prior to the financial crisis, European central banks bought the vast majority of USD-denominated SSA bonds and held them as capital reserves. Once U.S. investors began to seek out USD-denominated SSA bonds (during the Class Period), the market became more active. In contrast, there has been an active secondary market for bonds issued in other currencies, such as the Euro and its predecessors, *e.g.*, the deutsche mark. For example, KfW was founded in 1948 and began issuing SSA bonds soon thereafter.

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[13] George Richardson and Daniel Kim, *Demystifying Supranationals*, GIOA 2014 CONFERENCE PRESENTATION (Mar. 2016), at 17, http://www.gioa.us/presentations/2014/2014_World Bank_Richardson_Jefferies_Kim.pdf.

2. Relationship Between Secondary Market Trading and Primary Market Issuing

90. According to numerous industry insiders, when choosing underwriters, SSA issuers tend to favor those banks that have traded large volumes of previously issued SSA bonds. in the secondary market. Underwriting generates large fees for the banks. The desire to receive these underwriting fees combined with the link between issuers and trading volume resulted in increased volume in the secondary market.

91. Issuers will create and circulate charts depicting trading volume in the secondary market, and these charts are thereafter used to award underwriting business. The banks are not listed by name in the charts, but instead, code names, such as names of cartoon characters, are used. For example, one bank one month might be deemed "Mickey Mouse" while another is "Donald Duck." These "Mickey Mouse" charts are circulated to all market makers and inform them (in a code name) where they rank to incentivize banks to do more secondary business. A lower ranking in the secondary market, as depicted in the Mickey Mouse chart could jeopardize the banks' ability to be selected to underwrite a new primary issue down the line, which is extremely profitable to the banks.

92. As with other markets, increased trading volumes are usually obtained by way of lower prices. In the case of SSA bonds, that means lower bids and asks and, therefore, narrower spreads.

3. Regulatory Changes

93. During the Class Period, regulatory changes encouraged an increased demand for highly liquid, low credit risk securities, such as SSA bonds, and placed considerable pressure on Defendants to closely review their internal balance sheets and to build up capital and liquidity. These changes included the Dodd-Frank Wall Street Reform and Consumer Protection Act of

2010, Basel III, Capital Requirements Directive ("CRD4") and the Bank Recovery and Resolution Directive ("BRRD").

94. The first regulatory change that is relevant to this action is the Dodd-Frank Act's "Volcker Rule." The Volcker Rule restricted banks from "proprietary trading" where banks risked their own capital. Under the rule, banks are restricted to trading on behalf of their clients. This rule has resulted in banks holding less risky securities in their asset portfolios. While the Volcker Rule became effective in mid-2015, in anticipation, banks started cutting back on their risky securities trading in 2010.

95. The second major change was the Basel III regulatory requirements. While not fully effective until 2016-2019, banks started implementing them soon after its announcement. There are two aspects to the Basel III regulations: first, the capital requirements of banks were made more stringent by increasing the absolute amount of capital reserves a bank had to hold against its credit and trading risks, as well as penalizing the holding of more risky assets in calculating the Basel III capital requirement. This encouraged the holding of relatively safe securities such as SSA bonds. The second aspect of Basel III was the introduction, for the first time, of minimum liquidity ratio requirements for banks. These liquidity requirements – the Liquidity Coverage Ratio ("LCR") and the Net Stable Funds Ratio ("NSFR") – enhanced banks' needs for highly liquid assets, which, in turn, increased the demand for assets such as SSA bonds.

96. The third major change was the BRRD, enacted in 2014, which punishes bank equity and bond holders for risk taking. During the financial crisis, many large banks were "bailed out" because they were perceived to be "too big to fail."

97. Under the BRRD, large banks and other financial institutions are more likely to be allowed to fail. Specifically, while deposits and payment system transactions may be protected, other activities, such as trading, will not be, so that shareholders and other debt holders will be "bailed in" to losses rather than "bailed out," thereby imposing losses on bank stockholders and bondholders rather than the government. This has created further impetus for financial institutions to focus their investments and trading activities on relatively low risk securities such as Treasuries and SSA bonds.

4. A Perfect Storm for Collusion

98. The combination of the above sections was summed up by one banker who said: "Investors demand liquidity, issuers expect volume turnover like there's no tomorrow and bank balance sheets are shrinking all the time because of regulatory pressures. SSA is a tough business to be in at the moment."[14] Similarly, a January 7, 2016 article quoted one syndicate head as stating that there was considerable pressure on SSA bond traders to perform, and this may have "created the motivation and opportunity for market rigging."[15] Finally, during the Class Period, market insiders confirmed that Defendant banks had "aged inventory" policies in place, which meant that there would be a charge to a trader's profit and loss account if a position was maintained for 90 days and that, in some instances during the Class Period, that timeframe could have been as low as 40 days. As demand for SSA bonds increased, the potential to earn

[14] Helene Durand and Abhinav Ramnarayan, *SSA scandal prompts soul-searching*, INTERNATIONAL FINANCING REVIEW (Jan. 8, 2016), http://www.ifre.com/ssa-scandal-prompts-soul-searching/21230826.article.

[15] Craig McGlashan, *et al.*, *'Forced competition' to generate trading flow under fire for fomenting SSA scandal*, GLOBALCAPITAL (Jan. 7, 2016), http://www.globalcapital.com/article/vz0phyg7g5jt/39forced-competition39-to-generate-trading-flow-under-fire-for-fomenting-ssa-scandal.

returns from dealer market-making activity by utilizing non-competitive and collusive means became more lucrative.

99. The nature of the SSA bond market facilitates collusion by providing both incentives and opportunities to collude. Defendants' SSA bond traders were under extreme pressure from their employers and supervisors to generate volume in order to be awarded underwriting services down the line. Primary SSA bond issues tend to be over $100 million in a single offering and generate large fees for Defendants. Even a 1% fee on a $100 million offering would produce a $1 million underwriting fee.[16]

100. Given the size of many issues of SSA bonds, SSAs often retain multiple banks, including Defendants, to carry out the primary offering. Therefore, a group of Defendants (called a "syndicate") would work together in the underwriting process, facilitating collusion. As stated in one article, "once banks are mandated [to perform underwriting services] they have to work together. . . . Given the collegial nature, people might talk about things that they shouldn't."[17]

101. Beyond the syndicated nature of the primary offerings, there was also opportunity for Defendants to gain inside information into the life of an SSA bond. For example, Defendants would have been privy to inside information by being part of "soft sounding" meetings made with potential investors for the primary offering and thereby been able to learn about that particular offering and to thereafter track the whereabouts of the outstanding bonds.

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[16] Underwriting fees have commonly been around 1% in the debt market. *See* Kim, *et al.*, *The Effects of Commercial Banks on Underwriting Spreads: Evidence from Three Decades*, JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS, Volume 43, No. 4, Dec. 2008, at 975-1000.

[17] McGlashan, *supra* ¶98.

With collusion, it was possible for the Defendants to thus "boss" an issue to know where the outstanding bonds were and with collusion to be able to control the price. As acknowledged in the industry, "***he who holds bonds is king***."

102. The use of chat rooms was "commonplace" in the SSA bond market during the Class Period, providing opportunities to conspire. At that time, investigations into the use of chat rooms in other markets (as discussed below) had not yet been announced and therefore traders still felt free to communicate with each other on such chat rooms, even if the purpose of those communications was to fix prices.

103. In comparison to other trading desks, the pace for SSA trading is relatively slow, which further enables collusion. A trader may undertake zero trades in one day or as many as 25, and Defendants are given as long as 20 minutes to respond to quote inquiries. Defendants thus had the opportunity to use the chat rooms before offering quotes to ensure uniformity and/or coordination in the offerings.

104. Traders would typically arrive to their desks between 6:00 a.m. and 7:00 a.m. to price their portfolios of USD-denominated SSA bonds, and then those prices would be published. If buyers or sellers entered during the course of the day, Defendants could change the listed prices. After the markets closed at 5:00 p.m., each bank's own systems ran checks on the Defendants' (and all SSA traders') portfolio Excel sheets to ensure they were priced competitively – *i.e.*, that other banks were not receiving more income.

105. The SSA bond market has been described as a "very social market" that included trips sponsored by brokers (skiing, Ibiza, or Las Vegas) where SSA traders convened. Issuers would also host events that brought them together. For example, KfW annually held a meeting

in New York where SSA traders met. The World Bank held annual meetings in Washington, DC.

106. The SSA bond market is also very "collegial." According to an industry insider, the Trader Defendants and the USD-denominated SSA trader at Citi, Gary McDonald, were known to be a group of friends that socialized together often and communicated with each other regularly. An industry insider was able to confirm that McDonald and Gudka traditionally shared customer information.[18]

107. Defendants also had the opportunity to collude through interdealer brokers, which operate as middlemen in putting together buyers and sellers in the bond markets via phone and electronically. A number of SSA bond transactions are performed through interdealer brokers. The Bank of England warns that, as a general matter, "inter-dealer brokers will often have confidential information about order flow, even though they cannot take principal positions."[19]

108. The leading interdealer broker in SSA bonds is GFI Group ("GFI"). As an interdealer broker, GFI "brokers a variety of financial products, acting as intermediary," and it "charges commissions for successfully bringing about trades between [its] customers," which are "typically large financial institutions."[20] GFI sponsored events where Defendants would have an

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[18] As a further example of the collegial nature of this group and the industry in general, a donation page for a London marathon runner reveals the following donors in one year: Defendant Gudka, Defendant Pau, McDonald, and the "BAML SSA Desk." *danny's Virgin London Marathon 2014 page*, JUSTGIVING (2014), https://www.justgiving.com/fundraising/danny-hornsby1.

[19] Bank of England, Fair and Effective Market Reviews, at 13 (Oct. 2014), http://www.bankofengland.co.uk/markets/Documents/femr/consultation271014.pdf .

[20] *GFI Brokers LLC v. Santana*, Case No. 1:06-cv-03988-GEL, ECF No. 43, Affidavit of Nicholas John Brown (S.D.N.Y. Jan. 25, 2008).

opportunity to communicate. Upon information and belief, at least one interdealer broker has been contacted in connection with the SSA bond investigation.

109. Therefore, given the pressures in the SSA market due to the awarding in the primary based on secondary volume as well as the growing market, lack of oversight, and role of brokers, there was ample motive and opportunity to collude.

5. Dealers Collude to Increase Spreads

110. In a competitive market, Defendants would compete with each other's transactions (either buy or sell) with customers. Because SSA bonds are fungible, the primary way to compete is on price − the bid / ask spread. To gain customers' business in a competitive market, Defendants would narrow their spreads by increasing the bid (the price they buy) and decreasing the ask (the price they sell). In a competitive market, lower prices tend to provide more volume, albeit at lower margins.

111. Rather than sacrifice higher prices for higher volumes (and lower margins), Defendants conspired to fix the prices at which USD-denominated SSA bonds traded in the secondary market. Defendants communicated with each other ***daily*** about customers' bond purchases and sales information, as well as customer identities, trading habits, trade flow, and order sizes. By sharing information, Defendants were better able to determine the level of the prices being quoted to investors. Sharing this information, and agreeing to collectively respond to customers' buy/sell inquiries with specific predetermined supra-competitive quotes, lessened competition and enabled Defendants to offer USD-denominated SSA bonds at wider spreads without jeopardizing sales because they knew their co-conspirators would not come in and quote a narrower spread.

112. Defendants agreed upon their morning pricing. As they received customer orders, Defendants, acting through their traders, shared these orders with each other in daily electronic

chat rooms. As one SSA bond trader acknowledged, "[I]f you can speak to another trader and agree to see a bond at a certain price and not below, then that makes a big difference."[21] Although permanent chat rooms were commonplace in the general bond markets during the Class Period, Defendants, sensing the potentially incriminating nature of their use, set up daily chat rooms. In these chat rooms, Defendants agreed that they would offer the same or similar spreads to their customers, thereby fixing prices for USD-denominated SSA bonds traded in the secondary market.

C. News Reports of Regulatory Investigations into the SSA Market

113. News articles published between December 2015 and February 2016 reported that DOJ and the European Commission had begun an investigation into price fixing SSA bonds. On December 9, 2015, *Bloomberg* published the article "U.S. Said to Probe Possible Rigging in Agency Bond Market."[22] The article reported that, according to three people familiar with the matter, the DOJ was examining possible manipulation in the USD-denominated SSA bond market. *Bloomberg* reported that DOJ was investigating whether London-based traders violated antitrust laws primarily before 2014 by, among other things, coordinating with each other before deciding who would offer price quotes to potential buyers and sellers.

114. On December 10, 2015, an *MLex* article reported that the DOJ had opened a probe into the USD-denominated SSA bond market, involving "both the antitrust division's New York

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21 Ramnarayan, *supra* ¶70.

22 David McLaughlin and Tom Schoenberg, *U.S. Said to Probe Possible Rigging in Agency Bond Market*, BLOOMBERG (Dec. 9, 2015), www.bloomberg.com/news/articles/2015-12-09/u-s-said-to-probe-possible-rigging-in-agency-bond-market.

office and the criminal division's fraud section in Washington."[23] The article also reported that the focus of the probe is "on the secondary market, where the bonds are bought and sold, rather than on the issuance."

115. On January 6, 2016, *International Financing Review* reported greater detail of the investigation, naming banks under investigation, highlighting the chat rooms being probed, and citing "several sources" as its authority.[24]

116. These articles reveal that the DOJ is investigating the USD-based SSA trading desks at market makers in the secondary market for USD-based SSA bonds and that the "DoJ is investigating allegations that SSA traders at different banks agreed on prices and shared information on certain US dollar bonds in chat rooms they established for the purpose." They furthermore explain that "[l]ike past investigations, the DoJ is examining whether traders at banks colluded to manipulate prices in the SSA market and used chat rooms as part of the alleged scheme."[25] The DOJ has obtained transcripts of on-line chat room conversations and has requested information and answers from certain Defendants. Furthermore, sources indicated that the investigation is criminal in nature.

117. Foreign governmental authorities are investigating Defendants' conduct. The U.K.-based FCA is investigating potential anticompetitive conduct in the SSA bond market. On February 9, 2016, the *Financial Times* reported that the European Commission had opened a

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23 Leah Nylen and Joshua Sisco, *DOJ looking into possible antitrust violations in SSA bond market*, MLEX (Dec. 10, 2015).

24 Ramnarayan, *supra* ¶70.

25 Gina Chon, Caroline Binham and Laura Noonan, *DoJ investigates traders over debt-market rigging*, FINANCIAL TIMES (Jan. 6, 2016), http://www.ft.com/cms/s/0/5d58c314-b495-11e5-b147-e5e5bba42e51.html.

preliminary cartel investigation into the possible manipulation of the SSA bond market.[26] On February 10, 2016, *Reuters* reported that EU antitrust regulators were investigating several Defendants for possible "rigging" of the SSA market.[27]

D. Defendants Terminate or Suspend SSA Traders as the Government Investigations Are Revealed

118. Suggesting consciousness of guilt, Defendants quickly removed or suspended several of their USD-denominated SSA bond traders following the public announcement of the investigations and at otherwise suspicious times. At the end of 2015, Defendant Bank of America removed Hiren Gudka, Defendant Credit Agricole removed Amandeep Manku, and Defendant Credit Suisse removed Shailen Pau. Gary McDonald of Citibank and Bhardeep Heer of Nomura simultaneously lost their respective FCA authorizations the same day as the Head of SSA Trading for Defendant CMGI on March 6, 2016.

VI. ECONOMIC EVIDENCE FURTHER DEMONSTRATES THE LIKELIHOOD OF COLLUSION IN THE USD-DENOMINATED SSA BOND MARKET

119. To test Defendants' collusive conduct, Counsel for Plaintiff sponsored a number of economic analyses of transaction data from a 10-year period that included the Class Period. The first analysis compared the spreads of USD-denominated SSA bonds to those of corporate bonds, as it is expected that corporate bonds would have similar spreads to SSA bonds. This analysis shows the opposite result and indicates collusion.

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[26] Jim Brunsden, *EU probes suspected rigging of $1.5 trillion debt market*, FINANCIAL TIMES (Feb. 9, 2016), http://www.ft.com/cms/s/0/04befd8a-cf35-11e5-92a1-c5e23ef99c77.html.

[27] Foo Yun Chee, *EU investigating possible rigging of debt market, sources say*, REUTERS (Feb. 10, 2016), http://www.reuters.com/article/us-eu-antitrust-bonds-idUSKCN0VI213.

120. The second analysis looked at the average bid, ask, and transaction prices during the Class Period to see if the transaction price fell where it predictably would under normal market conditions: somewhere around the midpoint. It did not, also indicating collusion.

121. The third was a study of the time correlation of the bid-ask spread on SSA bonds during the Class Period versus the non-collusion period. This too indicated collusion.

122. The fourth study ran regressions using the spreads of Fannie Mae and Freddie Mac bonds, as well as Euro-denominated SSA bonds.

123. Regressions also were run between U.S. Treasury bonds (rated similarly) prices and yields and individual USD-denominated SSA bonds prices and yields. Collectively and individually, these studies are consistent with collusion.

A. Analysis of Corporate Bond Spreads to USD-Denominated SSA Bond Spreads

124. In order to compare corporate bond spreads with the spreads of USD-denominated SSA bonds during various time periods, actual transaction data was obtained from MarketAxess, a leading trading platform in the SSA bond market.

125. MarketAxess furnished a dataset with daily bid, ask, and transaction prices for SSA bonds traded between January 1, 2008 and May 31, 2016. To focus on USD-denominated SSA bonds, 617,317 transactions from 40 unique issuers were isolated and analyzed.

126. The "High Grade TRACE BASI Corporate Bond spreads" from MarketAxess provided the average spreads for corporate bonds. This index was selected because it uses the same approach to calculate spreads as was done for the SSA bonds, so that a valid comparison could be conducted. The TRACE BASI data produces a volume weighted average price spread that is calculated on both the bid and offer side for each security, and the difference results in the

daily bid-ask spread at the bond level. It does so for investment grade corporate bonds, which are comparable (or should be) to SSA bonds.

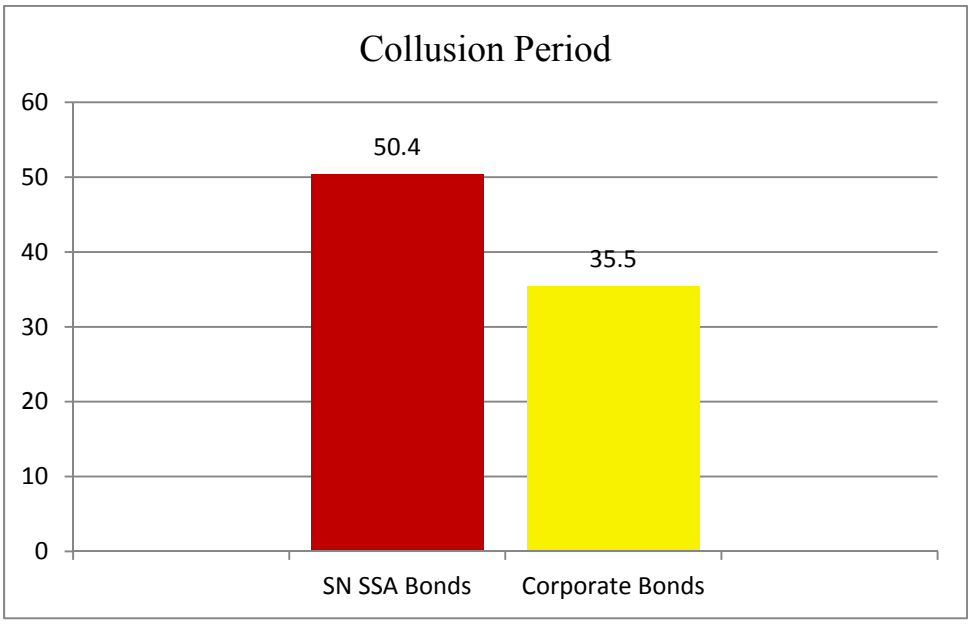
127. Corporate bonds include high quality securities that are held by buy-side investors. They are also somewhat transparent given the competitive trading and reporting platforms in place in that industry ("TRACE"). These attributes make them akin to SSA bonds that carry implicit or explicit credit guarantees from the issuing entity. Therefore, in a competitive market, USD-denominated SSA bond spreads should be relatively close to those of corporate bond spreads.

128. However, quite the opposite was true during the Class Period. The average spread for USD-denominated SSA bonds during the Class Period was ***significantly higher*** than the TRACE BASI spread for corporate bonds during the same time period despite the presence of either implicit or explicit guarantees.

129. The April 27, 2014 date was chosen as the end of the Class Period because, on that date, the *Financial Times* and *Reuters* reported that DOJ criminal prosecutors were travelling to London to question FX traders. Economic analyses confirm an abrupt shift in the spreads of USD-denominated SSA bonds as of April 28, 2014 as discussed herein.

130. To start, the analysis isolated the transactions coded as "Supranational" ("SN") only. This resulted in a pool of 576,342 unique observations coded "SN" that came from 25 unique issuers. Examples of the largest issuers in this data sub-set include: World-Bank International Bank for Reconstruction and Development, EIB, Inter-American Development Bank, and Asian Development Bank.

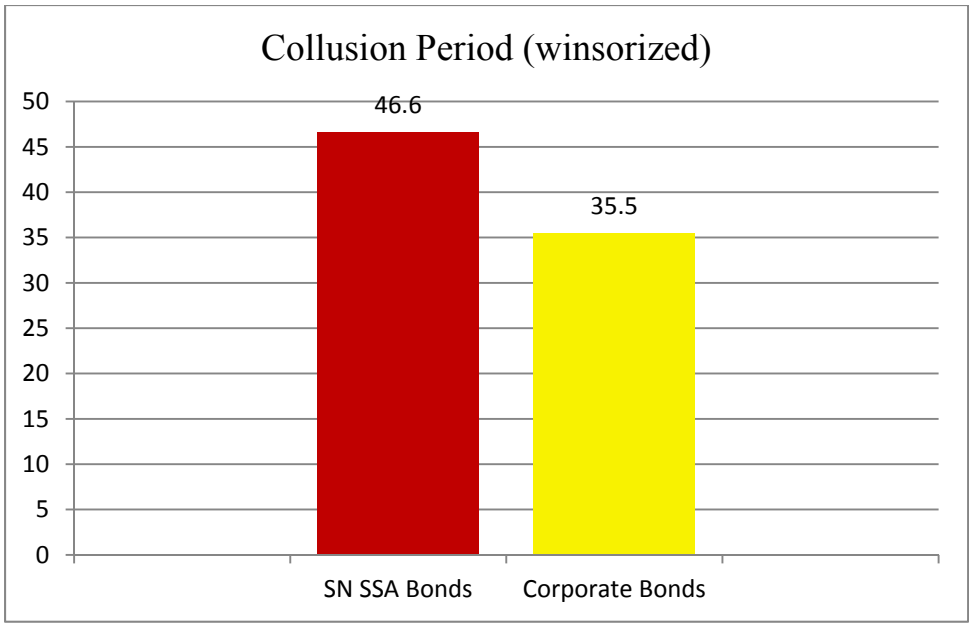
131. In that analysis, the average spread for USD-denominated SN SSA bonds during the Class Period was **50.4** bp. During that same period, the average spread for corporate bonds was **35.5** bp.



132. That is a difference of **14.9** basis points. This difference is significant on both a statistical and an economic basis and satisfies the standard threshold utilized in litigation and academic contexts for statistical significance.

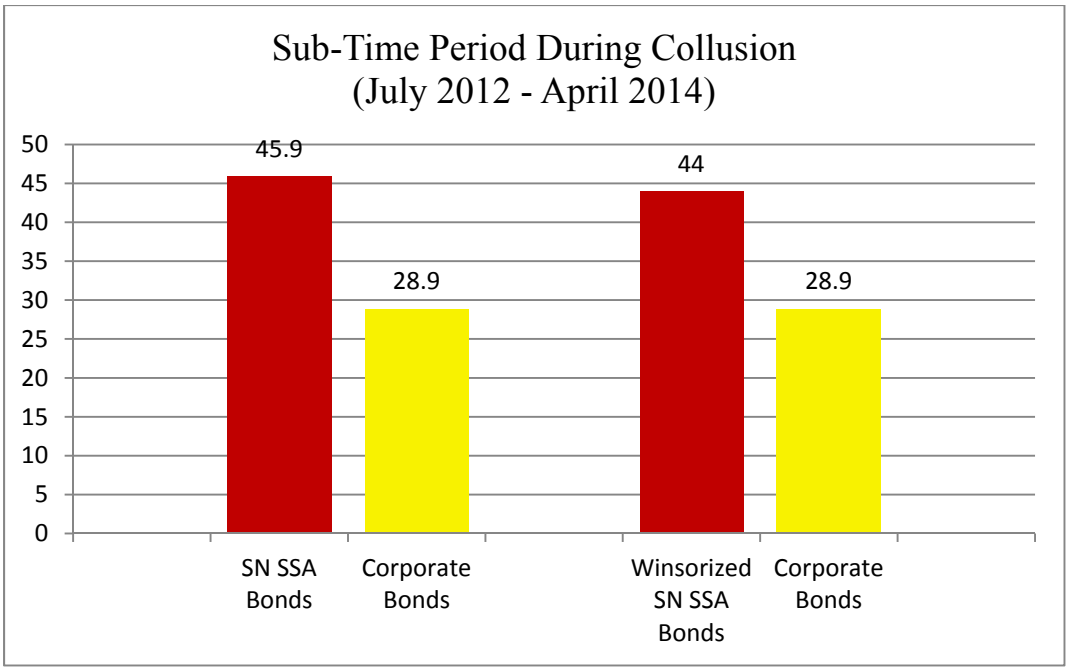
133. In order to ensure the validity of these results, Counsel commissioned an analysis of a winsorized dataset, which means the top 5% and the bottom 5% of all results were set at either the 95th or the 5th percentage level (or percentile). This ensures that averages are not overly sensitive to outliers. Winsorizing is a common practice in both business and academic economics.[28] When using the winsorized dataset, the average spread for USD-denominated SN SSA bonds during the Class Period was **46.6** bp compared to the **35.5** bp for corporate bonds.

[28] *See, e.g.*, J. W. Tukey, *The Future of Data Analysis*, 33 THE ANNALS OF MATHEMATICAL STATISTICS, Sept. 18 (1962).

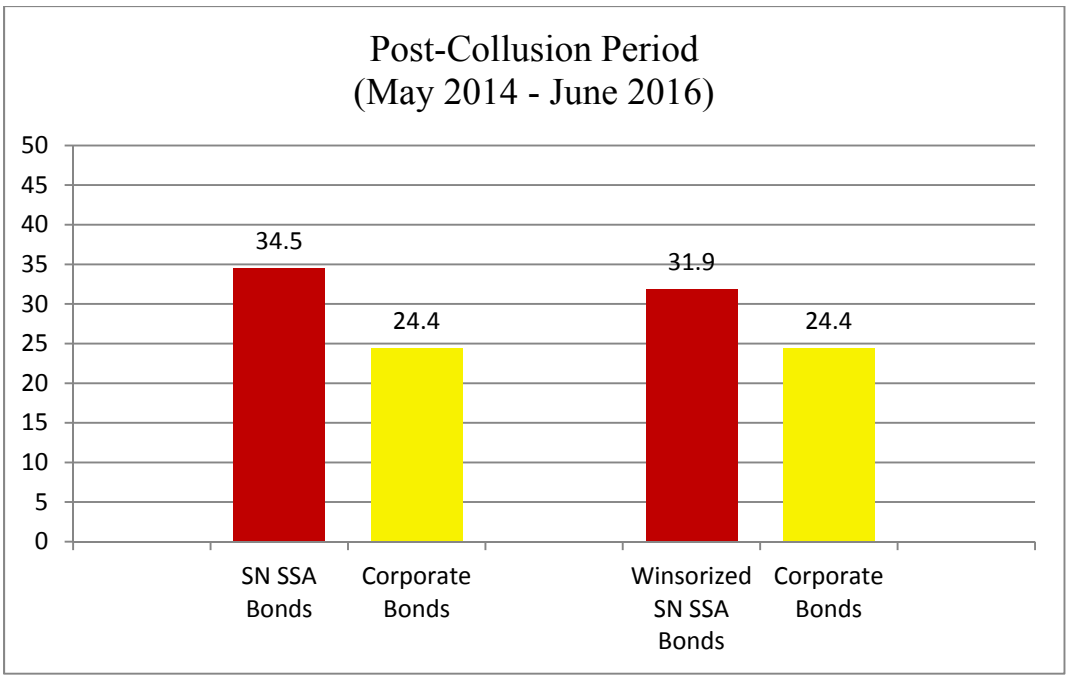


134. That is a difference of **11.1** bp, which is significant on both a statistical and an economic basis.

135. Furthermore, as the Class Period encompassed the European sovereign debt crisis, additional analysis was performed to isolate the effects of the sovereign debt crisis. This was done by focusing on a time period within the Class Period, but ***after*** the debt crisis, selecting the July 26, 2012 speech by Mario Draghi, President of the European Central Bank, when he vowed to do "whatever it takes" to save the Euro (a speech that is widely viewed as demarcating the end of the European debt crisis) as the start date and the end of the Class Period (April 27, 2014) as the end date. When that "clean" period (July 26, 2012- April 27, 2014) is analyzed, the results remain consistent. The average spread for SN SSA bonds during this time period was **45.9** bp against the corporate bond average of **28.9** bp, or a **17.0** basis point difference, which likewise is significant on both a statistical and an economic basis. For the winsorized dataset, the results were **44.0** bp to the **28.9** bp, or a **15.1** basis point difference, which again is statistically significant.



136. These same spreads drop ***considerably*** in the post-collusion period (April 28, 2014 through June 2016)[29] as shown below:



[29] Data from the pre-collusion period is noisier due to the global financial crisis, so it could not be used as a comparative time period.

137. To summarize, this first data test on bid/ask spreads produces the following cumulative results:

USD-Denominated SSA Bond Spread over Corporate Bond Spread (bp) by Time Period, Industry Code Supranational (SN) Only:

Bond Type	Collusion Period	Post-Euro Crisis ("Clean")	Post Collusion
SN SSA Bid-Offer Spread Average	50.4	45.9	34.5
Winsorized SN SSA Bid-Offer Spread Average	46.6	44.0	31.9
High Grade Corporate Bid-Offer Spread	35.5	28.9	24.4
SN SSA Spread Less Corporate Spread Average	14.9	17.0	10.1
Winsorized Dataset SN SSA Spread Less Corporate Spread Average	11.1	15.1	7.5

138. These data strongly suggest that the spreads for SN SSA bonds during the Class Period were manipulated – both because the spreads are so high during the Class Period and because the spreads narrow after the Class Period.

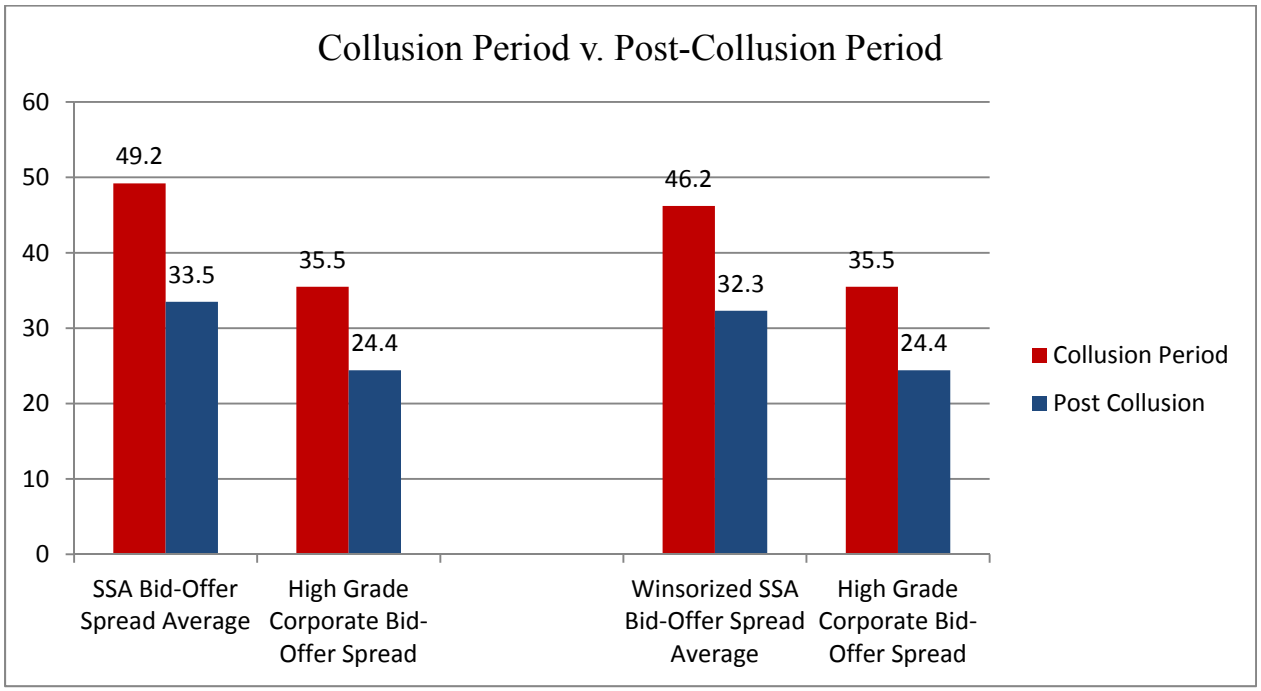
139. Counsel also commissioned a study of all USD-denominated SSA bond spreads isolated from the transaction data during the Class Period and compared those to the TRACE BASI corporate spreads.

140. Those results are in line with the above results from the SN SSA study:

USD-Denominated SSA Bond Spread over Corporate Bond Spread (bp) by Time Period:

Bond Type	Collusion Period	Post-Euro Crisis ("Clean")	Post Collusion
SSA Bid-Offer Spread Average	49.2	43.3	33.5
Winsorized SSA Bid-Offer Spread Average	46.2	43.2	32.3
High Grade Corporate Bid-Offer Spread	35.5	28.9	24.4
SSA Spread Less Corporate Spread Average	13.7	14.4	9.1
Winsorized Dataset SSA Spread Less Corporate Spread Average	10.8	14.3	7.9

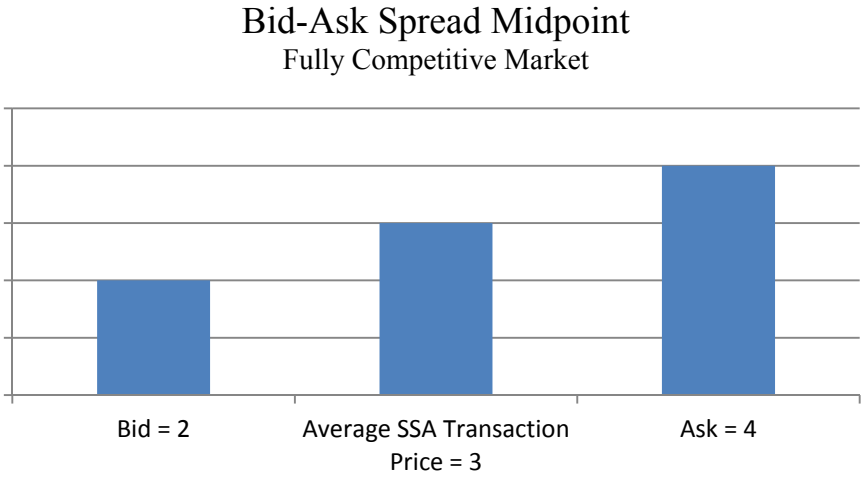
141. Once again, the differences between the average SSA bid-offer spreads and the corporate bond bid-offer spreads are significant on both a statistical and an economic basis. Represented differently, average total SSA bond spreads were strikingly higher than the corporate bond spreads during the Class Period.



142. As a further test of collusion, the SSA/SN bid-ask spreads and corporate spreads in the collusion and post collusion periods were deflated to control for the fact that interest rate levels fell between the collusion and post collusion periods. Even taking into account the lower level of interest rates post collusion, the SN bid-ask spread fell 15% more than the corporate spread between the collusion and post collusion periods and 34% between the collusion and post Euro crisis post collusion period. The results for the SSA bonds were qualitatively similar, the SSA collusion spread relative to the post-collusion period spread fell 18% relative to the corporate spread and between the collusion and post Euro crisis non collusion period by 19%. Thus, even after controlling for the level of interest rates, the post-collusion SN/SSA spreads over corporates fell statistically significantly.

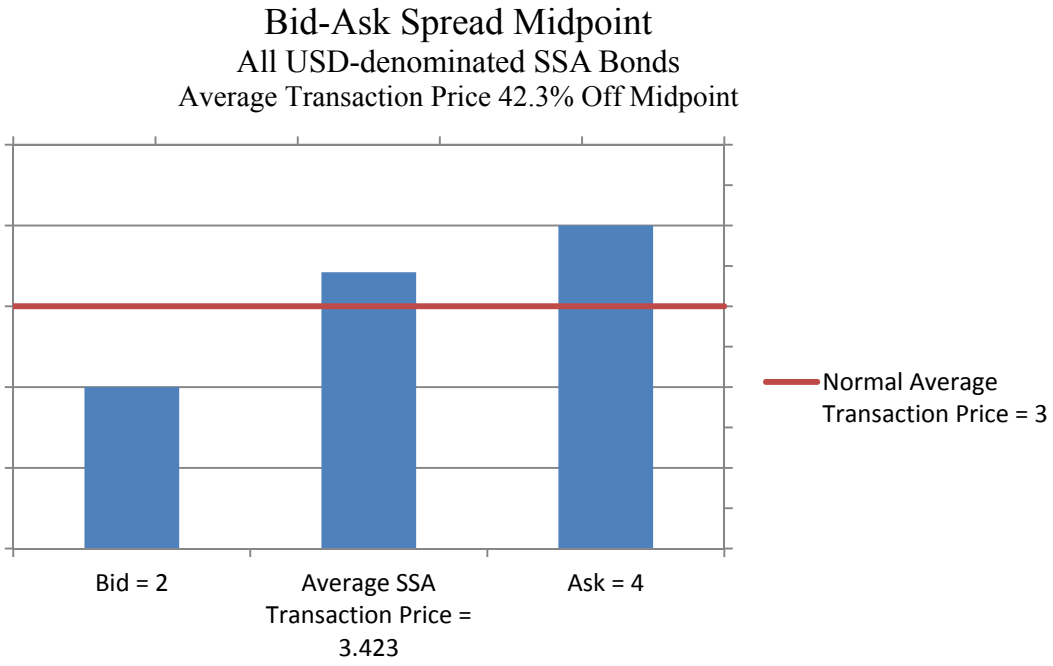
B. Comparison of Actual Transaction Prices to Bid-Ask Midpoint

143. To further test this result, Counsel commissioned a study to look at where transaction prices during the Class Period fell in relation to the bid-ask spread midpoint. In a fully competitive market, the trade price should fall close to the midpoint of the bid and the ask. Therefore, if the bid price is "2" and the ask price is "4," in a competitive dealer market, the transaction price would likely be around "3":



144. However, when transaction prices were analyzed for all USD-denominated SSA bonds during the Class Period, Plaintiff's experts found that the trade price was ***41.4% off the bid-ask spread midpoint.*** Again, isolating a "clean" period after the debt crisis but before the end of the Class Period resulted in an average transaction price that was ***42.3%*** off of the bid-ask spread midpoint. These comparisons strongly suggest collusion and material overcharge.

145. Therefore, if a Class member were to buy SSA bonds during the collusion period, they would pay an average price of 3.423 for a bond with a bid quote of 2 and an ask quote of 4:



146. When Plaintiff's experts looked at a sub-set of the data (USD-denominated SN SSA bonds or 576,342 observations) during the Class Period, the trade price was ***41.4% off the bid-ask spread midpoint.*** Again, isolating a "clean" period after the debt crisis but before the end of the Class Period resulted in an average transaction price that was also ***42.3%*** off the bid-ask spread midpoint when the average transaction price in a competitive dealer market should be much closer to the bid-ask midpoint. These numbers are very large and suggestive of collusion.

C. Regression Analysis of Daily Average Spread over Time

147. A further test of collusion is to examine the degree of variation in the average bid-ask spread of bonds over time. One would expect to see less variation over time when there is collusion on bids and offers.

148. Here, during the Class Period (January 1, 2010 – April 27, 2014), the R-squared was 79.83% for all SSA bonds and 74.80% for the SN SSA subset. However, during the post-collusion period (April 28, 2014 – June 2016), the R-squared for all SSA bonds isolated from the transaction data dropped to 49.49% and to 51.50% for SN SSA bonds. Those are declines of 30.34% and 23.30% respectively. Such evidence is strongly consistent with collusion in bid-ask spreads in the SSA market during the 2010-2014 period.

149. These results were checked with the winsorized dataset and reveal the following:

- R-squared of 78.08% for all SSA bonds during the Class Period;
- R-squared of 74.12% for SN SSA bonds during the Class Period;
- R-squared of 49.85% post collusion for all SSA bonds;
- R-squared of 57.78% post collusion for SN SSA bonds; and
- For all SSA bonds, that is a change of 28.23% and 16.34% for the SN SSA bonds subset.

150. The bid-offer spreads for the week of April 23 to April 29, 2014 also tend to confirm the end of the Class Period. The bid-offer spread on SN SSA bonds on April 25, 2014 (the last trading day in the Class Period) was 46.3 basis points. By the next trading day and the first day after the Class Period (April 28, 2014), it had dropped 13.6% to 40.0 basis points.

151. Further, in the 15 trading days between April 3 and April 27, 2014 versus the 15 trading days from April 28 to May 19, 2014, the 15-day average spread fell 8.5 basis points for

SN SSA bonds, while corporate bond average spreads fell only 0.9 basis points for the same comparison.

152. A slightly different analysis using the 15- and 5-day trading periods only confirms the end of the Class Period. Counsel commissioned a study of the average bid-offer spreads for ***EURO-denominated SSA bonds*** for the same 15- and 5-day trading periods surrounding the end of the Class Period. Because Euro-denominated SSA bonds were traded at different desks and presumably not part of the collusion, they were used as a benchmark.

153. While the average spread for USD-denominated SSA bonds narrowed considerably in the 15 trading days following the end of the Class Period as compared to those preceding it, with the Euro-denominated SSA bonds, their spreads ***did not narrow at all***. The average bid-offer spread for Euro-denominated SN SSA bonds from April 3-27, 2014 was 19.8, while it was 20.7 for the 15 days after the end of the Class Period (April 28-May 19, 2014).

154. When all Euro-denominated SSA bonds were evaluated, the average bid-offer spread for the 15 days before the end of the Class Period was 23.7. That number only changed (widened) to 24.1 during the 15 trading days after the Class Period.

155. The identical thing holds true when the days surrounding April 27 and 28, 2014 were examined – the spreads stayed constant. This only reinforces the end of the Class Period.

D. Using Fannie Mae and Freddie Mac Bonds as a Comparison

156. Fannie Mae and Freddie Mac bonds are sometimes lumped in with USD-denominated SSA bonds because they carry an implicit government guarantee, but are not sovereign bonds.[30] However, insiders have confirmed that Fannie Mae and Freddie Mac bonds

[30] *See*, *e.g.*, http://www.incapital.com/Products_and_Offerings/SSA/Overview/About_Agencies.aspx.

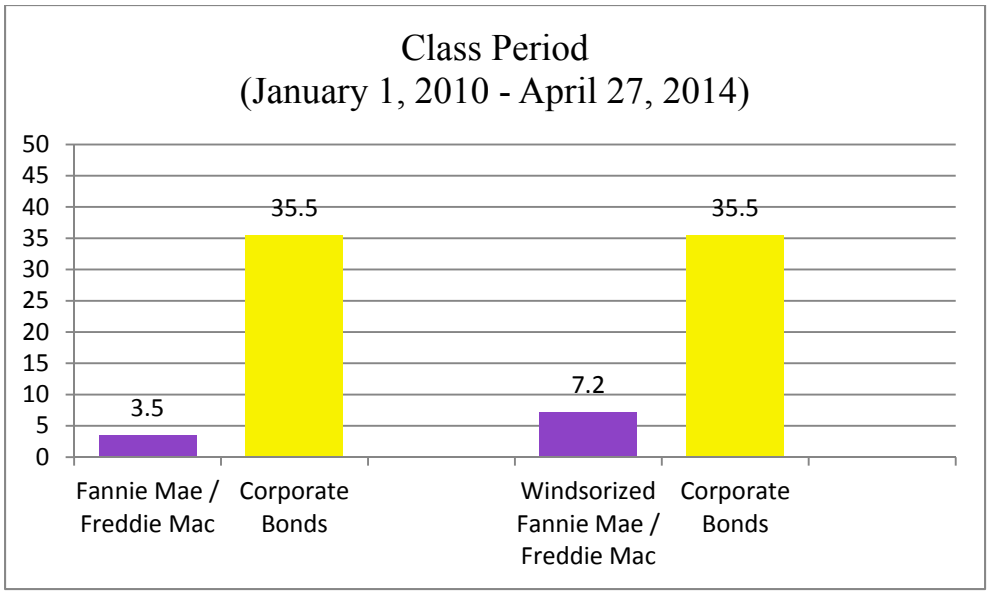
were not traded at the same desks as USD-denominated SSA bonds. That is, they were traded independently and separately from USD-denominated SSA bonds.

157. Therefore, since Fannie Mae and Freddie Mac bonds are very similar to SSA bonds, they are a suitable "clean" comparison by which to demonstrate whether collusion occurred.

158. As stated above, when Counsel looked at the spreads for USD-denominated SSA bonds during the Class Period, their average spread was ***significantly higher*** than the TRACE BASI spreads for corporate bonds during the same time period, which was unexpected due to their implicit or explicit guarantees.

159. However, that was not true for Fannie Mae and Freddie Mac bonds during the Class Period. Instead, the bid-offer spreads for Fannie Mae and Freddie Mac bonds were ***significantly lower*** than the same TRACE BASI spreads for corporate bonds during the same time period.

160. For all observations during the Class Period, Fannie Mae and Freddie Mac bonds had an average spread of **3.5** bp as compared to corporate bonds that had an average spread of **35.5** bp. Similarly, when the data was winsorized, the average spread during the Class Period for Fannie Mae and Freddie Mac bonds was **7.2** bp as compared to the same **35.5** bp.



161. These results are additional evidence in support of the conclusion that collusion was present in the USD-denominated SSA bond market during the Class Period.

E. Linear Regression Analysis of SSA Prices Relative to U.S. Treasury Bonds

162. An additional way to examine the potential presence of collusion is to look at the relationship between the level of an index of Treasury prices ("PDPLGOVT") and the daily average of SSA prices over the 2010 – 2016 period.

163. Using weekly observations (on a Wednesday) of the average SSA price and the Bloomberg reported PDPLGOVT index of Treasury prices (on a Wednesday), a regression was run of SSA prices (net of Fannie Mae and Freddie Mac bonds) on the Treasury bond index over the January 2010 – June 2016 period. In addition, a dummy variable was included in the regression, which was "1" for the 2010 to 2014 collusion period and "0" for the non-collusion 2015 – 2016 period.

164. If there are factors causing the SSA bond price to be higher than predicted by the movement of Treasury prices in the collusion period, this dummy variable should have a positive

and statistically significant value. This was found to be so, for both the SSA (excluding Fannie Mae and Freddie Mac) regression and the same regression using the SN prices.

165. This result is consistent with the presence of collusion within the USD-denominated SSA bond market.

F. Linear Regression Analysis of SSA Bond Yield Changes Relative to the Yield Changes on U.S. Treasury Bonds

166. Counsel also commissioned an analysis that compared certain USD-issued SSA bond yield changes to U.S. Treasury bond yield changes during the Class Period. Again, U.S. Treasuries were selected because they likewise carry a credit guarantee, although U.S. Treasuries have a full faith guarantee from the U.S. government, whereas USD-denominated SSA bonds have either an explicit or implicit credit guarantee. Nonetheless, given the degree of safety against credit risk of both, it would be expected that they move very closely together over time.

167. By comparing daily changes in the yields of U.S. Treasury bonds with specific SSA bonds, Counsel was able to see how much of the change in SSA bond yields could be explained by a change in U.S. Treasury bond yields. This is also expressed in terms of the "R-squared" value, which is the square of the correlation coefficient between two variables. Thus, if two variables are highly correlated (*i.e.*, they move together), the R-squared should be close to "1." However, if the variables move in completely uncorrelated directions, the R-squared will be close to "0."

168. When Plaintiff's Counsel ran a linear regression analysis on certain USD-denominated SSA bonds and their reference to U.S. Treasury bonds during the Class Period, they found that despite similar credit ratings and perceived safety, the yields on certain SSA bonds had low correlations with matched U.S. Treasury bonds yields during the Class Period.

VII. GUILTY PLEAS, PROSECUTIONS, ENFORCEMENT ACTIONS, AND INVESTIGATIONS INTO OTHER PRICE FIXING AND BID RIGGING CONSPIRACIES IN THE FINANCIAL SERVICES INDUSTRY INVOLVING MANY OF THE SAME DEFENDANTS ARE INDICATIVE OF CONSPIRACY

169. This case is merely one of the more recent chapters in the saga of the "too big to fail" banks and other multinational financial institutions colluding to rig, fix, and manipulate numerous U.S. and global financial services markets.

170. Defendants and their co-conspirators have collectively paid more than $20 billion in government fines and penalties to resolve civil and criminal charges, and certain Defendants are also defending, and have agreed to settle, civil cases similar to this, brought by classes of investors alleging violations of the Sherman Antitrust Act in significant over-the-counter and exchange traded financial services markets, including:

- ***LIBOR.*** Conspiracy to fix and manipulate a financial benchmark interest rate ubiquitous in U.S. consumer, commercial, and financial transactions;
- ***FX.*** Conspiracy to fix and manipulate the exchange rates of global currencies, including for the U.S. Dollar; and
- ***ISDAfix.*** Conspiracy to fix and manipulate a key benchmark rate used in trillions of dollars of U.S. transactions, such as interest rate swaps and swaptions.

171. Some of the Defendants also find themselves under federal investigation and defending civil litigation for antitrust conspiracies in other markets, including in other key benchmark interest rates (*e.g.*, EURIBOR, TIBOR, and Swiss Franc-LIBOR), financial products (*e.g.*, U.S. Treasuries and Interest Rate Swaps), as well as cases concerning manipulation of the prices of Gold, Silver, and Platinum, and related precious metals derivatives.

172. The conspiracy in the USD-denominated SSA bond secondary market alleged here occurred in large part contemporaneously with these others, though just recently discovered.

Defendants employed the same means to accomplish, and to conceal, their collusive manipulation.

A. LIBOR

173. Certain Defendants or their affiliates are being investigated by (or have already pled guilty and/or paid fines or penalties to governmental regulators for collusion in setting LIBOR, the most widely used interest rate benchmark in the world.

174. LIBOR is based on the banks' self-reporting of the cost at which they could borrow money in the London interbank market. Government investigations have found that the banks colluded with one another to submit false rates that benefited individual trader positions and to appear healthier than they actually were. This manipulated the published LIBOR, causing investors in financial instruments linked to LIBOR to pay more or receive less than they otherwise would have in a competitive market. Government prosecutors and regulators have found that this conspiracy constituted price fixing in violation of Section 1 of the Sherman Act. Certain brokers that were active in the LIBOR conspiracy are now on criminal trial in the U.K. The brokers in LIBOR also ***conspired through electronic chat rooms***.

175. Defendant Deutsche Bank has been fined €725.4 million by the EC for rigging Yen LIBOR and EURIBOR. Deutsche Bank entered into a deferred prosecution agreement with the DOJ, in which it plead guilty and admitted that it colluded with other banks to manipulate LIBOR submissions, and agreed to pay $626 million in fines. In connection with its manipulation of LIBOR and EURIBOR, Deutsche Bank was also fined $800 million by the U.S. Commodity Futures Trading Commission, $600 million by the New York Department of Financial Services, and $344 million by the U.K. Financial Conduct Authority.

176. Defendants Bank of America, Citibank, Credit Agricole, Credit Suisse, and Deutsche Bank are named as defendants in the civil class actions, which are in discovery, and

against which the Second Circuit held plaintiffs "plausibly alleged an antitrust violation attributable to the Banks, for which appellants seek damages." *Gelboim v. Bank of Am. Corp.*, No. 13-3565-cv, 2016 WL 2956968, at *7 (2d Cir. May 23, 2016).

B. FX

177. Certain Defendants or their affiliates also have been investigated, prosecuted, and paid criminal fines and civil penalties for violating federal antitrust laws by colluding to rig the $5.3 trillion-a-day FX market, the largest financial market in the world.

178. Defendants Bank of America, Citibank, Credit Suisse, and Deutsche Bank are among the multinational banks involved. Through the FX investigations, it has come to light that a group of traders at these banks met regularly ***in electronic chat rooms*** to swap confidential information, including details about their customers' orders, in order to collusively set key FX benchmark rates and to set artificially wide spreads on FX transactions. These traders gave their chat rooms names such as "The Cartel" and "The Mafia." The banks were able to accomplish their conspiracy because, in part, the FX market is, like the USD-denominated SSA market, primarily conducted over-the-counter with little regulation and because the banks involved in the conspiracy are the dominant players in the market. In the FX investigation, the DOJ and a number of regulators have obtained guilty pleas and civil settlements resulting in billions of dollars in collective fines and penalties from several defendants thus far.

179. Defendants Citibank and Bank of America are prominent among these FX defendants. On May 20, 2015, Citibank pled guilty in FX and paid a $925 million criminal fine for conspiring to fix prices and rig bids for US Dollars and Euros exchanged in the foreign

exchange spot market in the United States and elsewhere.[31] The same day, the Federal Reserve assessed a $324 million penalty against Citibank and a $205 million penalty against Bank of America.[32]

180. These followed earlier CFTC, OCC, and other orders against Citibank and Bank of America. On November 11, 2014, the CFTC instituted and settled charges against Citibank for violations of the Commodity Exchange Act, ordering Citibank to pay a $310 million civil penalty.[33] On November 12, 2014, the Office of the Comptroller of the Currency ("OCC") announced that it assessed penalties of $350 million against Citibank and $250 million against Bank of America.[34] At the same time, the U.K. FCA fined Citibank $358 million for FX manipulation.[35]

181. Defendants Bank of America, Citibank, Credit Suisse, and Deutsche Bank are defendants in the private FX class action, in which more than $2 billion in settlement agreements

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[31] http://www.justice.gov/file/440486/download; United States Department of Justice, *Five Major Banks Agree to Parent-Level Guilty Pleas: Citicorp, JPMorgan Chase & Co., Barclays PLC, The Royal Bank of Scotland plc Agree to Plead Guilty In Connection With The Foreign Exchange Market and Agree to Pay More Than $2.5 Billion In Criminal Fines*, May 20, 2015, at https://www.justice.gov/opa/pr/five-major-banks-agree-parent-level-guilty-pleas.

[32] Press Release, Board of Governors of the Federal Reserve System (May 20, 2015) (http://www.federalreserve.gov/newsevents/press/enforcement/20150520a.htm).

[33] *CFTC Orders Five Banks to Pay over $1.4 Billion in Penalties for Attempted Manipulation of Foreign Exchange Benchmark Rates*, Release PR 7056- 14 (Nov. 12, 2014) (available, with links to Consent Orders, at http://www.ftc.gov/PressRoom/PressReleases/pr7056-14).

[34] OCC, *OCC Fines Three Banks $950 Million for FX Trading Improprieties* (Nov. 12, 2014) (https://www.occ.gov/news-issuances/news-releases/2014/nr-occ-2014-157.html).

[35] *FCA fines five banks £1.1 billion for FX failings and announces industry-wide remediation programme* (Nov. 12, 2014) (available online at http://www.fca.org.uk/news/fca-fines-five-banks-for-fx-failings).

have been achieved, and in which Judge Schofield held the complaint "sufficiently alleges the existence of a conspiracy in violation of Section 1 of the Sherman Act, and that all Defendants were part of that conspiracy." *In re Foreign Exch. Benchmark Rates Antitrust Litig*., 74 F. Supp. 3d 581, 590 (S.D.N.Y. 2015).

C. ISDAfix

182. Government regulators are also investigating certain Defendants' collusive manipulation of the ISDAfix, a key benchmark interest rate for a number of important financial instruments, including interest rate swaps.

183. The ISDAfix was supposed to be set based on Defendants' transactions in the swaps market, in which Defendants competed with one another. However, the banks colluded with one another to manipulate the ISDAFIX by: (a) sharing competitively sensitive information, including order flows; (b) coordinating the execution of a rapid-fire series of transactions immediately before the computation window (*i.e*., "banging the close"); and (c) quoting the same spread − down to five decimal points − during the computation window.

184. The banks were able to accomplish this collusion because, in part: (a) interest rate derivatives (like SSA bonds) are traded over-the-counter in a non-transparent market; and (b) the banks control the interest rate derivative market. Again, as here, ***the conspiracy was accomplished using telephone calls, emails, and chat rooms*** to coordinate their activities.

185. An interdealer broker – ICAP plc ("ICAP") – played a key role in facilitating the conspiracy among the defendant banks, which colluded through their dealings with ICAP and otherwise. ICAP, like GFI, is a leading interbroker dealer in SSA bonds.

186. Citibank was ordered by the CFTC to pay $250 million to settle the CFTC charge that:

> Citibank, by and through certain of its traders, attempted to manipulate and made false reports concerning USD ISDAFIX by skewing the Bank's USD ISDAFIX submissions, in the Bank's role as a panel bank in the USD ISDAFIX setting process, in order to benefit the Bank's trading positions at the expense of its derivatives counterparties. In addition, Citibank, through its traders, bid, offered, and executed trades in targeted interest rate products, including swap spreads and U.S. Treasuries, in a manner designed – including in timing and pricing – to influence the published USD ISDAFIX to benefit the Bank in its derivatives positions.[36]

The ISDAfix investigation remains ongoing against several Defendants. In the related civil class actions pending in this District, Defendants Bank of America, Citibank, Credit Suisse, Deutsche Bank, and Nomura are named as defendants; Bank of America, Citibank, and Credit Suisse have agreed to settle. The case is in discovery, with Judge Furman having held that the complaint "plausibly alleges that a conspiracy among Defendants existed." *Alaska Elec. Pension Fund v. Bank of Am. Corp.*, 14-CV-7126 (JMF), 2016 WL 1241533, at *5 (S.D.N.Y. Mar. 28, 2016).

VIII. PLAINTIFF AND MEMBERS OF THE CLASS SUFFERED ANTITRUST INJURY

187. Plaintiff and the Class suffered the quintessential antitrust injury – fixed prices. Using covert and clandestine means, such as electronic chat rooms and other communications over interstate wires and otherwise, Defendants discussed trades, coordinated bids, and disclosed confidential customer information all for the purpose of fixing USD-denominated SSA bond prices. Defendants' conspiracy caused Plaintiff and members of the Class who transacted in USD-denominated SSA bonds during the Class Period to either pay higher prices directly to Defendants when they sold or receive lower prices when they bought. Thus, Defendants'

[36] United States Commodity Futures Trading Comm'n, *CFTC Orders Citibank to Pay $250 Million for Attempted Manipulation and False Reporting of U.S. Dollar ISDAFIX Benchmark Swap Rates*, May 25, 2016, at http://www.cftc.gov/PressRoom/PressReleases/pr7371-16.

anticompetitive behavior directly and foreseeably harmed Plaintiff and the Class who believed that they were participating in a fair and competitive market. The injuries suffered by Plaintiff and members of the Class are of the type antitrust laws were designed to prevent and flow from that which makes Defendants' conspiracy and overt acts unlawful.

IX. FRAUDULENT CONCEALMENT

188. Any applicable limitations period relating to the causes of action alleged herein was tolled for Plaintiff's claims through at least December 2015, because: (1) Defendants' conspiracy was self-concealing; (2) Defendants' affirmative steps, such as their resort to using daily chatrooms, concealed their conspiracy; and (3) the DOJ investigation of the SSA market was revealed in December 2015.

189. Neither Plaintiff nor members of the Class knew of Defendants' and their co-conspirators' unlawful and self-concealing manipulative acts and could not have discovered them by the exercise of reasonable due diligence, if at all, at least prior to public reports disclosing the DOJ's investigation into their conduct in December 2015.

190. Reasonable due diligence could not have uncovered Defendants' and their co-conspirators' manipulative conspiracy because Defendants' transactional data, instant messaging, and other internal documents that may have indicated conspiracy earlier were and are not publicly available. At the same time, SSA transactions have been held out as based on competition and not collusion.

191. Defendants fraudulently concealed their anticompetitive activities by, among other things, engaging in secret communications in furtherance of their conspiracy. These communications occurred in non-public, daily chat rooms, instant messages, and through email, none of which are or were reasonably available to Plaintiff or members of the Class.

192. Recognizing the incriminating possibilities of chat rooms, the Trader Defendants set up different chat rooms every single day to further shield their secret conspiratorial communications from discovery. To Plaintiff's knowledge, the first news report of possible manipulation in SSAs was published on December 9, 2015.[37] There was no other tip-off that a price fixing conspiracy existed prior to that. Absent such a disclosure, no reasonable person would have been alerted to conspiracy based on the mere availability of historical transactional pricing data.

193. Plaintiff and members of the Class have acted diligently in seeking to bring their claims promptly.

194. Because of Defendants' active steps, including fraudulent concealment of their conspiracy to prevent Plaintiff from suing them for the anticompetitive activities alleged in this Complaint, Defendants are equitably estopped from asserting that any otherwise applicable limitations period has run.

X. CLAIM FOR RELIEF -- VIOLATION OF SECTIONS 1 AND 3 OF THE SHERMAN ACT, 15 U.S.C. §§1, 3

195. Plaintiff incorporates by reference and re-alleges the preceding allegations as though fully set forth herein.

196. The combination and conspiracy alleged herein is a per se violation of Sections 1 and 3 of the Sherman Antitrust Act of 1890, 15 U.S.C. §§1 & 3. During the Class Period, Defendants conspired to, and did, unreasonably restrain trade by fixing, rigging, and otherwise manipulating the price of USD-denominated SSA bonds.

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[37] *See* David McLaughlin & Tom Schoenberg, *U.S. Said to Probe Possible Rigging in Agency Bond Market*, BLOOMBERG (Dec. 9, 2015), at http://bloom.bg/1RaD1OR.

197. The conspiracy and overt acts in furtherance thereof by Defendants and their co-conspirators had the purpose and effect of injuring Plaintiff and members of the Class by causing them to pay more or receive less than they otherwise would have in a competitive market.

198. Alternatively, the combination and conspiracy in unreasonable restraint of trade alleged herein is a quick look or rule of reason violation of Sections 1 and 3 of the Sherman Act. There is no legitimate business justification for, or pro-competitive benefits attributable to, Defendants' conspiracy and overt acts in furtherance.

199. Any proffered business justification or asserted procompetitive benefits would be pretextual, outweighed by the anticompetitive effects of Defendants' conduct, and the conspiracy and overt acts would not be the least restrictive means by which they could be achieved.

200. Plaintiff and members of the Class have been injured in their business and property by reason of Defendants' violation of Sections 1 and 3 of the Sherman Antitrust Act of 1890, 15 U.S.C. §§1 & 3, within the meaning of Section 4 of the Clayton Antitrust Act, 15 U.S.C. §15.

XI. REQUEST FOR RELIEF

Plaintiff, on behalf of itself and the members of the Class, respectfully requests the following relief:

A. Order that this action may be maintained as a class action pursuant to Rules 23(a) & (b)(3) of the Federal Rules of Civil Procedure, that Plaintiff be named Class Representative, and that reasonable notice of this action, as provided by Rule 23(c)(2), be given to members of the Class.

B. Adjudge and decree that Defendants violated Section 1 and 3 of the Sherman Antitrust Act of 1890, 15 U.S.C. §§1 & 3, and enter joint and several judgments against Defendants in favor of Plaintiff and members of the Class.

C. Adjudge and decree that Plaintiff has suffered antitrust injury and has antitrust standing to sue Defendants for their violations of law under Sections 4 of the Clayton Antitrust Act of 1914, 15 U.S.C. §15.

D. Award three times the damages suffered by reason of Defendants' violations of law.

E. Order that a constructive trust be established, into which Defendants disgorge all ill-gotten gains, and from which Plaintiff and members of the Class may be provided restitution.

F. Award reasonable costs of suit, including costs of mediation and experts.

G. Award pre- and post-judgment interest.

H. Award reasonable attorney's fees.

I. Grant such other, further and different relief as is just and proper.

XII. DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiff demands a jury trial as to all issues triable by a jury.

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